Progress Report

2013 - 2014

NETHERLANDS
BRAIN BANK

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The cover photo shows paraffin sections of brain tissue of 8 µm in thickness. After sections have been cut, they are mounted on glass slides and (immuno)histochemically stained for further evaluation.

Contents

Introduction

It is with great pleasure that I present the 2013-2014 progress report of the Netherlands Brain Bank. 2013-2014 were important years for the NBB, when, together with five Dutch university medical centers, we started an extensive national brain donor program for psychiatric diseases and during which we intensified our international collaborations and increased our dissemination of tissue and knowledge.

On October 24, 2013, the psychiatric donor program, NBB-Psy, was officially launched during a public symposium entitled "De Wetenschap Ontleedt' in de Rode Hoed venue in Amsterdam. The new donor program involved the appointment of six research assistants, whose task it was to personally approach psychiatric patients and their families in clinical research cohorts and through a network of patient organizations, with the purpose of informing them about the possibility of brain donation for research into psychiatric diseases. As a result the yearly number of registrations had doubled to almost 600 in December 2014. A Research & Development department of NBB-Psy was initiated to establish protocols for the isolation of pure glia cells for dissemination.

The annual numbers of autopsies in 2013-2014 were comparable to previous years (90-100), but the annual numbers of tissue applications sharply increased from 100 -160 annually. The research carried out with NBB brain tissue samples resulted in 426 publications between 2010 and 2014. During these years, the NBB visited a brain bank conference in China and intensified its collaboration with the Chinese Brain Bank in Hangzhou. In November 2014, the NBB was invited to join the Netherlands state visit to the Republic of Korea to sign a Memorandum of Understanding (MoU) to start a collaboration in brain banking, specifically with the Korean Brain Bank in the new Korean Brain Research institute in Daegu. The NBB has also advised the MRC in the UK on cost recovery systems in brain banking. During the relevant period, the NBB was honoured by visits of Professor David Amaral, director of Autism BrainNet, Professor Tom Hyde, COO of the psychiatric brain bank of the Lieber Institute of Brain Development, and Professor Karl Zilles, an expert in mapping the human brain and co-author on the Science paper 'BigBrain: An Ultra-

high-Resolution 3D Human Brain Model'.[1]

In addition to the 426 publications that resulted from research carried out with NBB brain tissue samples, the NBB has also contributed to publications about brain banking in general. We co-authored a paper about brain banking in Lancet Neurology[2], and we are also proud of the publication of our "Brain Net Europe's Ethical Code of Conduct for Brain Banking" in December 2014[3]. This Code of Conduct covers basic legal rules and the bioethical principles involved in brain banking. Sources include laws, regulations and guidelines (Declarations, Conventions, Recommendations, Guidelines and Directives) issued by international key organizations. Furthermore, the NBB was asked to edit a Volume of the Handbook of Clinical Neurology on "Brain Banking psychiatric and neurological disorders", together with Professor Maree J. Webster, director of the Stanley medical research Institute, Maryland, USA.

I am greatly indebted to the Netherlands Institute for Neuroscience, the Royal Netherlands Academy for Arts and Sciences, Stichting MS Research, Stichting ParkinsonFonds, Hersenstichting, stichting Zabawas and de Vriendenloterij, as well as to private backers, for their financial support, which is indispensable for the continuation of the NBB.

I also thank the members of the autopsy team for their guidance and round-the-clock help with the autopsies. Many of them are (PhD) students and technicians who have volunteered to help us out despite their own busy programs and work commitments. Equally indispensable are the autopsy assistants and pathologists at VUmc, to whom I would like to express my gratitude for their unstinting willingness to perform the autopsies.

Last but not least, a heartfelt thank you to all our donors and their families, without whom worldwide scientific research of the brain and brain disease would not be possible.

Inge Huitinga, Director Netherlands Brain Bank

1 Amunts, K. et al. (2013). BigBrain: an ultrahigh-resolution 3D human brain model. Science, 340(6139), 1472-1475.
2 Samarasekera, N. et al. (2013). Brain banking for neurological disorders. The Lancet Neurology, 12(11), 1096–1105.
3 Kliοueva, N. et al. (2015). BrainNet Europe's Code of Conduct for brain banking. Journal of Neural Transmission, 122(7), 937–940.

Vision and mission

The vision of the Netherlands Brain Bank

The human brain forms one of the main scientific puzzles and many aspects of its functioning are still waiting to be understood. Innovative research using human brain tissue may lead to major scientific breakthroughs regarding the understanding of the human brain in health and disease and may yield novel therapeutic strategies to treat brain disorders.

The mission of the Netherlands Brain Bank

The Netherlands Brain Bank (NBB) facilitates cutting edge human brain research by providing the scientific community with the highest quality of post mortem tissue of patients and matched controls in combination with cliniconeuropathological documentation. The NBB adheres to strict ethical guidelines such as informed consent, open access, and non-profit policy, as stated in **BrainNet Europe's Ethical Code of Conduct for brain banking**[4].

History

The Netherlands Brain Bank was founded in 1985 by Dick Swaab, initially with the sole purpose of obtaining brain tissue for his Alzheimer research. However, he soon realized that a facility where people could register as brain donors for research purposes would greatly benefit other researchers in neuroscience as well. From the very start, the NBB has thus had an open access policy, accepting applications for brain tissue from researchers from all over the world.

The NBB organization chart can be found in the **Appendix (Figure 17)**.

4 Kliouеva, N. M., Rademaker, M. C., Dexter, D. T., Al-Sarraj, S., Seilhean, D., Streichenberger, N., … Huitinga, I. (2015). BrainNet Europe's Code of Conduct for brain banking. Journal of Neural Transmission, 122(7), 937–940. http://doi.org/10.1007/s00702014-1353-5

Donor program

The aim of the Netherlands Brain Bank (NBB) is to establish and maintain a resource of human brain tissue to facilitate and stimulate post mortem brain research. The NBB focuses on several neurological and psychiatric disorders and therefore welcomes individuals with a disorder as well as healthy controls as brain donors. By registering, a donor gives informed consent to the NBB to perform a rapid autopsy after the donor has passed away, to collect medical information from the donor's physicians, and to distribute brain tissue and anonymized medical information to researchers worldwide.

The registration forms and accompanying informational brochures (informed consent forms) are in line with regulations and guidelines issued by international key organizations, such as the Council of Europe, the European Commission, the World Medical Association and the World Health Organization. The informational brochures and registration forms were reviewed and approved by the Medical Ethics Committee of VU medical center, Amsterdam, where the NBB's autopsies take place. The NBB adheres to BrainNet Europe's Ethical Code of Conduct for brain banking. More information can be found in the NBB's **ethical declaration**[5].

The NBB has a prospective donor program and actively encourages individuals to register as a brain donor. Besides increasing numbers of donor registrations, this active approach also aims to raise common awareness of the importance of post mortem research.

Focus of the NBB donor program

In line with previous years, in 2013-2014 the NBB focused its donor registration program on diagnoses for which the research community has a high demand for brain material. The NBB is always in need of more control donors, i.e. individuals without any diagnosis related to the brain. In addition, on December 31, 2014, new registrations of individuals with the following diagnoses were explicitly welcomed: psychiatric diagnoses, multiple sclerosis, Parkinson's disease, frontotemporal dementia, Alzheimer's disease (only via VUmc Alzheimer center), Huntington's

5 http://www.brainbank.nl/media/uploads/file/Ethical declaration.pdf

disease, Amyotrophic Lateral Sclerosis (ALS), narcolepsy and transsexuality. The NBB has a separate donor program for psychiatric diagnoses, NBB-Psy, which is described in more detail in a **separate subchapter**.

Despite this focus, every registration request is still reviewed on an individual basis, and persons with another diagnosis who are interested in registering as a brain donor are welcomed to contact the NBB to discuss the possibilities. It's also important to note that, though new registrations of a certain diagnosis may no longer be accepted, previously registered donors with that diagnosis can remain registered and are still appreciated as donors.

The registration policy is subject to change. A current list of accepted diagnoses is available on **www.hersenbank.nl**.

Registrations

On December 31, 2014, 3108 living donors were registered at the NBB. Figure 1 shows these registrations broken down by diagnosis.

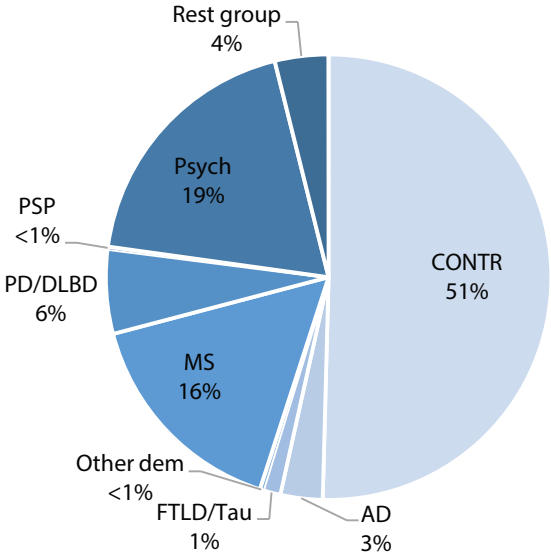

Figure 1 Registered donors on December 31, 2014 (total: 3108)

In 2013 and 2014, a total number of 704 new donors registered at the NBB. Therefore, the increase of registrations that was already notable in 2011-2012 (742 new registrations) has persisted. The most notable difference is that the number of registrations from people with a psychiatric diagnosis is much higher than before. This growth can be explained by the active encouragement of registration through the NBB-Psy project. The distribution of new registrations across other diagnoses has remained comparable to previous years, although registration numbers of people with Alzheimer's disease (due to the limited registration policy since 2012), MS and Parkinson's disease have declined somewhat. Registration numbers by diagnosis are displayed in figure 2.

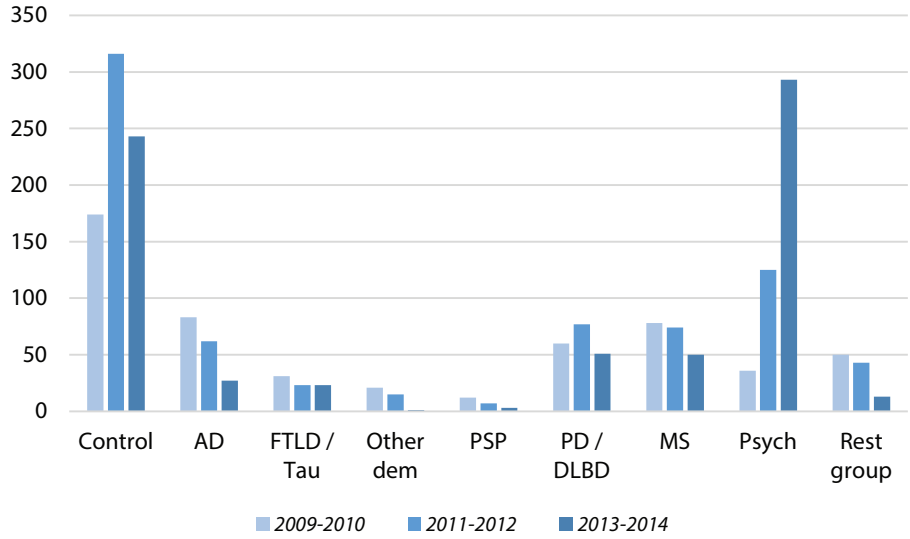

Figure 2 New donor registrations 2009 - 2014

The active donor program of the NBB-Psy project started in late 2013. This is reflected in the large difference in registration numbers compared between 2013 and 2014. Figure 3 shows the registration numbers by diagnosis, separately for 2013 and 2014. There was a sharp increase of registrations of control donors (after relatively few registrations in 2013) and donors with psychiatric diagnoses.

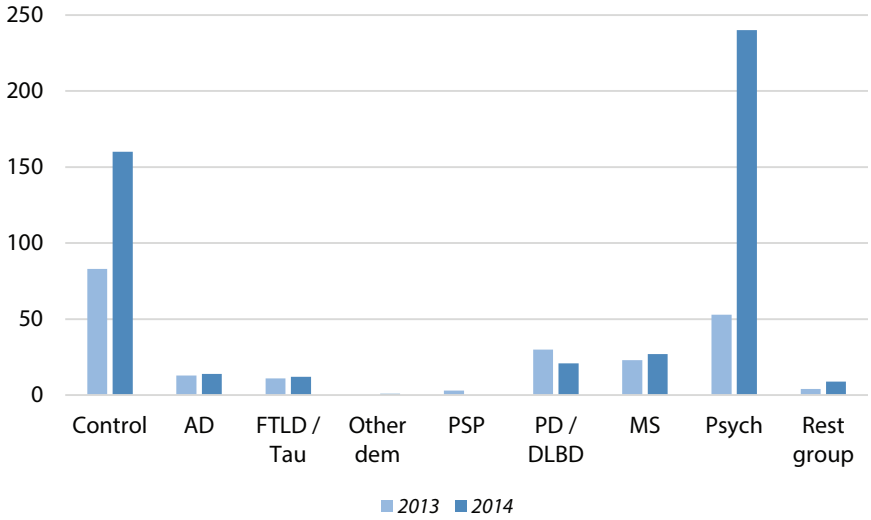

Figure 3 Comparison of new donor registrations in 2013 and 2014

The Netherlands Brain Bank for Psychiatry (NBB-Psy)

Aim of NBB-Psy

In 2012 the project 'The Netherlands Brain Bank for Psychiatry', abbreviated NBB-Psy, was launched. The aim of NBB-Psy is to recruit brain donors who have been diagnosed with one or more of the following psychiatric disorders:

- Schizophrenia or psychoses
- Bipolar disorder
- Major depression
- Obsessive-compulsive disorder
- Post-traumatic stress disorder
- Autism spectrum disorder
- Attention-deficit hyperactivity disorder

NBB-Psy approaches potential donors with these psychiatric disorders both actively and passively, to inform them about brain donation. To this end, six research assistants were appointed in September 2013. The team of research assistants are supervised by the clinical coordinator. More information on the staff can be found in chapter **Staff and Collaborations**.

Background

The NBB-Psy project is funded by the Netherlands Organisation for Scientific Research (NWO) with €3,450,000 for five years. The funding was assigned to inform and register potential brain donors and to reimburse the costs of brain autopsies of subjects registered by NBB-Psy. In addition, the funding enables NBB-Psy to collect information about the psychiatric history of both new donors and previously registered donors. The NBB-Psy project is a collaborative effort of the NBB and five University Medical Centers:

- University Medical Center Utrecht (UMC Utrecht)
- Academical Medical Center Amsterdam (AMC)
- VU University Medical Center (VUmc)
- Radboud University Medical Center (Radboudumc)
- Erasmus University Medical Center (Erasmus MC)

In collaboration with the first four university medical centers, participants of their clinical research cohorts were individually informed about the possibility to become a brain donor. These clinical research cohorts included hundreds of people diag-

nosed with the disorders within the scope of NBB-Psy. Since a substantial amount of scientific data of the subjects was collected during cohort participation, there is extensive information about the symptoms, course, severity of the disorders and cognitive functioning. In addition, biomaterials such as DNA and plasma are available. Those data make participants highly valued brain donors for the NBB-Psy program.

Besides collaborating with academic medical centers, we set up a network with the relevant patient and family associations as well. The aim of this network is to inform the members of those associations about NBB-Psy, for example by advertising in their magazines and giving presentations about the project. Our network includes the following patient and family associations: Anoiksis, Ypsilon, Vereniging voor Manisch Depressieven en Betrokkenen (VMDB), Nederlandse Vereniging voor Autisme (NVA), Angst, Dwang en Fobie Stichting (ADF Stichting), Depressie Vereniging, Impuls, Personen uit het Autisme Spectrum (PAS), Nederlandse Vereniging voor Psychiatrie (NVvP) and Balans.

Strategy of the NBB-Psy donor program

Potential donors are approached both actively and passively. The main method is the active approach of participants of clinical research cohorts of the participating

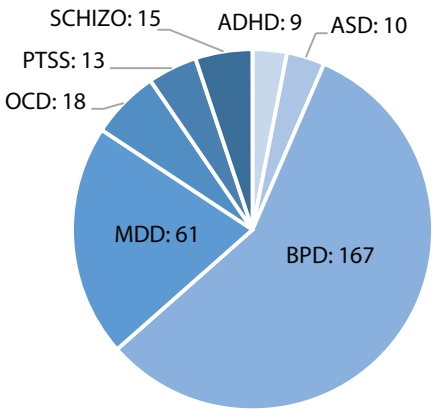

Figure 4 New registrations in 2013-2014 of donors with a psychiatric diagnosis (total: 293)

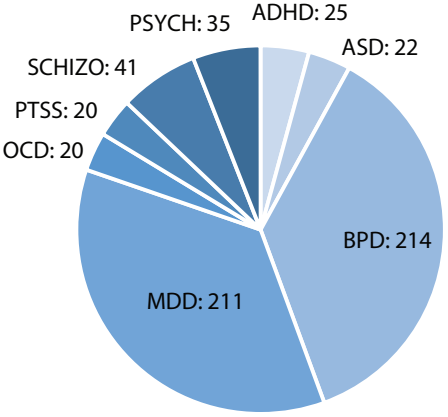

Figure 5 Registered (living) donors with a psychiatric diagnosis on December 31, 2014 (total: 588)

University Medical Centers. All cohort participants are first approached by mail with our brochure and an accompanying letter, and in a later stage also by telephone If desired, participants receive more information on brain donation via telephone, mail, e-mail or in person.

In addition to the active individual approach, potential donors are also informed passively. This includes placing posters and brochures and presenting information on digital screens in waiting areas of psychiatric clinics. The brochure was developed specifically for NBB-Psy and provides general information on brain donation. It encloses a reply card to request more information.

In 2013-2014, this donor recruitment approach has resulted in 293 new registrations of subjects with one or more of the seven psychiatric disorders that NBB-Psy focuses on. Figure 4 further specifies the numbers of new registrations by diagnosis. Figure 5 shows all registrations of persons with a psychiatric diagnosis (including people who registered before the launch of the NBB-Psy project) on December 31, 2014. The large proportion of depression and bipolar disorder registrations can be explained by the large size of the clinical research cohorts for these diagnoses, combined with a relatively high registration efficiency (percentage of approached cohort participants that have registered as a brain donor) compared to other cohorts.
At the time this progress report was published, the results of the first 18 months of donor recruitment activities in the research cohorts had been analyzed. A manuscript presenting these results is currently in preparation (De Lange et al., in preparation).

Collecting donor information

In addition to active recruitment of new brain donors, the NBB focuses on collecting information about the donor's medical and psychological history. Before 2013, the NBB has mainly gathered this information after donors had passed away, but since 2013, information has been increasingly collected during the donor's life by means of medical questionnaires, diagnostic interviews, and verifying the psychiatric diagnosis directly after registration by requesting the official DSM classification.

Medical questionnaire

A medical questionnaire was developed to gather information on the development and course of possible diseases during life. This questionnaire addresses treatment by specialists, family history of several disorders and diseases, brain injuries and lifestyle. Since May 2013, all new registration forms include the questionnaire. In January 2014, all control donors and donors with a psychiatric diagnosis who had registered before May 2013 were also asked to complete the questionnaire. Subsequently, control donors are asked to update the information every five years, and donors with a psychiatric diagnosis are approached every year. To enable donors to provide online updates, an online questionnaire application was developed.

Interview to assess psychiatric symptoms

We also started to collect data on psychiatric symptoms and disorders. A diagnostic tool, named the M.I.N.I. plus interview (Mini International Neuropsychiatric Interview), has been used by the NBB since September 2013. We strive to interview all control donors and donors with a psychiatric diagnosis in person at one time during life. Donors with a psychiatric diagnosis are interviewed to get detailed information on psychiatric symptoms they do and do not have. Control donors are also interviewed, in order to determine whether they fit the criteria for control donors for comparison with psychiatric donors. If a control donor turns out to have significant psychiatric symptoms, but not enough to justify a psychiatric diagnosis, he or she is more suitable as a control donor for research projects focused on other, non-psychiatric brain disorders. Furthermore, the M.I.N.I. plus interview may reveal psychiatric symptoms that could benefit from treatment, but for which the donor has not yet sought help. In such a case the NBB-Psy team can notify the donor's general physician (with the donor's permission), who may direct the donor to suitable treatment.

For the interview, donors are visited at home or invited to come to the office of one of the NBB-Psy research assistants. To optimize capacity, our team expanded with two students to conduct those interviews. In October 2014, we hosted a so-called 'M.I.N.I. day'. During this event, donors participated in an interview and followed a tour through the NBB building guided by our staff (figure 6). The M.I.N.I. day was very successful and well-attended and offered the opportunity to interview more people on one day than usual.

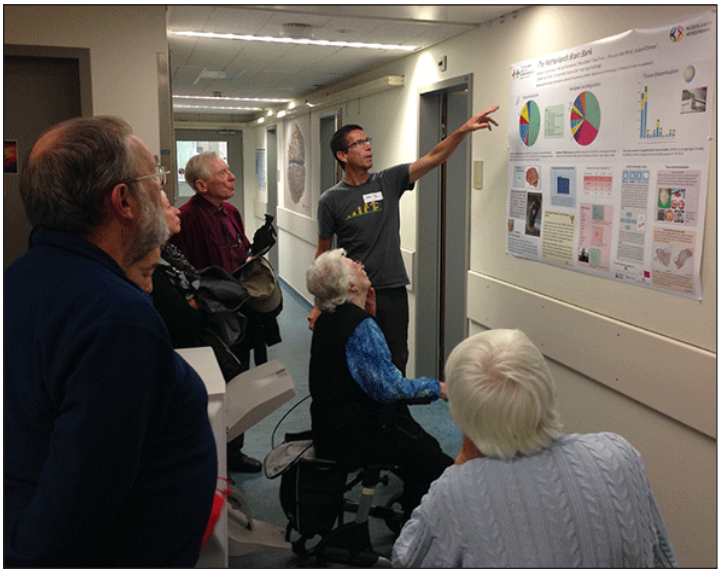

Figure 6 Donors get a tour of the NBB during the M.I.N.I. day

Verifying the psychiatric diagnosis

Since 2013, upon registration of a new donor who mentions a psychiatric diagnosis on the registration form, the NBB approaches the donor's general physician, psychiatrist or psychologist to request the official classification according to the Diagnostic and Statistical Manual of Mental Disorders (DSM). For donors who registered before 2013 and who have participated in the M.I.N.I. plus interview, the official DSM classification is also requested if this is warranted by the interview's results.

Collaboration with cohorts

In addition to the NBB-Psy cohorts, and in line with previous years, in 2013-2014 the NBB's registration policy for other diagnoses has also focused on several clinical research and / or treatment patient cohorts. People who participate in such cohorts are especially interesting for post mortem research because they have usually been studied longitudinally and therefore a large amount of standardized medical data is already available. The general approach is that the NBB informs the researchers, physicians and / or other professionals involved in the cohorts about brain donation and provides information material. The cohorts, in turn, ask their participants and / or their next of kin to consider brain donation via the NBB.

VUmc Alzheimer Center

In 2013-2014, the previously established collaboration between the NBB and the **VUmc Alzheimer Center**[6] has continued. Since 2012, we have only registered donors with Alzheimer's disease if they are registered at the VUmc Alzheimer Center. 54 NBB donors were included in the VUmc Alzheimer Center cohort on December 31, 2014, mainly with a diagnosis of Alzheimer's disease, but also with other diagnoses. Nineteen of these donors had already come to autopsy at that time. Since 2013, the collaboration was extended and two more clinical research cohorts within the Alzheimer Center were included in the donor and autopsy program of the NBB: the 100-plus study and PAGE-AD.

100-plus study

The NBB and the **100-plus study**[7] have collaborated since 2013. The study researches non-demented centenarians in order to identify the processes that maintain cognitive health during aging: how do these persons differ from people who do become demented, usually at a much earlier age? This cohort is separate from the general VUmc Alzheimer Center cohort, which does not include cognitively healthy control donors. The study participants are interviewed and examined during life by the 100-plus study researchers. It they also decide to become a brain donor at the NBB, the brain material is made available exclusively to the 100-plus study. 26 NBB donors were included in the 100-plus cohort on December 31, 2014. Five of these donors had already come to autopsy at that time.

6 http://www.alzheimercentrum.nl
7 http://www.alzheimercentrum.nl/100plus/

PAGE-AD

The PAGE-AD project (Pathological substrate of clinical variability in AD) started in 2014 after receiving a grant from the **Memorabel program**[8] of 'Deltaplan for Dementia'. In most patients with Alzheimer's disease (AD), memory impairment is the first symptom, but a substantial group of patients present with non-memory symptoms. This may indicate a so-called parietal subtype of AD that is insufficiently understood. The goal of the PAGE-AD project is to endophenotype the parietal AD type by means of neuropathological and histochemical analysis and comparison to typical AD patients and healthy controls. A subset of donors from the general VUmc Alzheimer Center cohort are included in this study.

Other cohorts

In 2014, preparations began for the Netherlands Parkinson Cohort. A research network of eleven hospitals will uniformly gather data from living persons with Parkinson's disease. These persons will also be asked to register at the NBB to enable post mortem research. Also in 2014, the NBB has started a collaboration with the research project **PreDiva**[9], aimed at cardiovascular interventions. Study participants were asked to consider registration at the NBB. Furthermore, the NBB collaborates with two specialized nursing homes: **Dijk en Duin**[10] (elderly persons with psychiatric symptoms and/or cognitive and behavioral problems) and **Nieuw Unicum**[11] (multiple sclerosis).

8 http://www.zonmw.nl/en/programmes/memorabel-dementia-research-and-innovation-programme/programme/

9 http://www.zonmw.nl/nl/projecten/project-detail/prevention-of-dementia-by-intensive-vascular-care-pre-diva/

10 https://www.dijkenduin.nl/

11 http://www.nieuwunicum.nl/

Donor communication

In 2013 and 2014, several updates of the NBB's communication channels and materials were implemented. Since 2014 donors can send paper mail to the NBB free of charge (by means of an 'antwoordnummer'). A new logo and house style were developed in 2012 and the transition was completed in 2013. The NBB's short information brochure was renewed to match the new style, and the text was updated. The websites **www.hersenbank.nl** and **www.brainbank.nl** were also completely redesigned and now allow for easier updates by means of a content management system. Furthermore, in 2013 a new web-based donor registration database was developed, including the appropriate functionality to keep track of the additional information that is collected within the NBB-Psy program. The online questionnaire application is linked to this database, which means that updates provided by the donor can be implemented in the database directly.

Especially within the NBB-Psy program, several new communication strategies were implemented. The separate websites **www.nhb-psy.nl** and **www.nbb-psy.nl** were launched in 2013. Another novelty is the use of social media. You can find NBB-Psy on twitter (**@NHBPsy**[12]) and facebook (**NHB-Psy**[13]). Furthermore, NBB-Psy has developed an **informational film**[14] to inform potential donors, psychiatric healthcare professionals and researchers about the program. Finally, in 2014 the first separate NBB-Psy newsletter was developed and distributed. This newsletter introduced the NBB-Psy staff and included interviews with a donor and researcher and an overview of media attention. Through the newsletter, we keep our donors and collaborational network up to date concerning our progress. The NBB-Psy newsletter will be sent every year (in contrast to the general NBB newsletter which is sent every two years).

Public relations

Like in previous years, the NBB has continued to raise awareness of the importance of research with human brain tissue and the possibility of brain donation. When reaching out to (people involved with) potential new donors, we always emphasize that for good scientific research, donors with neurological or psychiatric diseases and healthy control donors are equally important. We're glad to note that due to the additional resources that were available for NBB-Psy, the NBB was able to invest

12 https://twitter.com/NHBPsy
13 https://www.facebook.com/NHB-Psy
14 https://www.youtube.com/watch?v=Yi4eyMk2pys

much more time and effort in public relations activities than in previous years, which resulted in a notable increase of media appearances, presentations and attendance of events.

The public relations activities include events organized by the NBB, presence of NBB staff at events and congresses of other organizations, presentations, and coverage in different types of media such as magazines, websites, tv, and radio. Tables 1 - 3 provide an overview of the NBB's public relations activities in 2013 and 2014. Table 1 lists general PR activities and activities focused on non-psychiatric diagnoses. Tables 2 and 3 list the PR activities of the NBB-Psy program, with separate tables for presence at events and congresses (table 3) and other types of PR activities (table 2).

Highlights include the kick-off symposium to promote the official start of NBB-Psy (figure 7), a scientific symposium on the possibilities of research with brain tissue from donors with a psychiatric diagnosis, articles in two national newspapers (Trouw and Volkskrant) and a national magazine (Elsevier), an interview with the NBB's director Inge Huitinga broadcasted on national television (Omroep Max), and the visit of Inge Huitinga to the Republic of Korea to sign a Memorandum of Understanding (MoU) between the NBB and Korea Brain Research Institute (figure 8). The MoU was signed during the state visit, in the presence of President Park Geun-hye of the Republic of Korea and King Willem-Alexander and Queen Máxima of the Netherlands. Dr. Huitinga also attended the state banquet at the Blue House, President Park's executive office and official residence.

Figure 7 Impression of the NBB-Psy kick-off symposium

Figure 8 Dr. Huitinga visits Republic of Korea to sign MoU with Korea Brain Research Institute

Table 1 Overview of public relations activities and articles on the work of the NBB in 2013 and 2014 (general PR activities and activities focused on non-psychiatric diagnoses)

Date	Title* / description	Medium / information
Jan - Feb 2013	Radio commercial with Inge Huitinga	MS Research (patient organization)
2013/05/21	Interview with Inge Huitinga: 'MS research in brain tissue'	De Telegraaf (daily newspaper)
2013/06/13	Interview with Veronica Popescu (VUmc): 'How to find a brain for MS research?'	De Volkskrant (daily newspaper)
2013/07/11	Book 'Alzheimer en Afscheid' (Alzheimer's and farewell) by Frits van den Haspel	Book written by the husband of a woman who donated her brain to the NBB. For every sold copy, € 2 is donated to the NBB
2013/10/05	Introductory presentation about the NBB by Petra Brom and Bonnie van Huik	MS association region Drenthe
2013/10/10	Information stand at the yearly public event of the Hersenstichting (Dutch brain foundation)	
2013/12/04	'Worldwide MS research with Dutch brain tissue'	Supplement of Telegraaf (daily newspaper)
2014/02/11	Introductory presentation about the NBB by Petra Brom, Bonnie van Huik, Jack van Horssen	MS association region Utrecht
2014/05/28	Inge Huitinga leads expert sessions at world MS day	MS Research world MS day (Oegstgeest)
2014/05/28	'Inge Huitinga about MS in men and women'	Dutch edition of the international MS atlas
2014/10/09	Information stand at the yearly public event of the Hersenstichting (Dutch brain foundation)	
2014/11/05	Round table sessions with Bonnie van Huik, Petra Brom, Mark Mizee	MS Research / MS Vereniging: MS patient day ('dag voor mensen met MS')
Nov 2014	Inge Huitinga visits the Republic of Korea to sign a Memorandum of Understanding (MoU) between the NBB and Korea Brain Research Institute. The MoU was signed during the state visit, in the presence of President Park Geun-hye of the Republic of Korea and King Willem-Alexander and Queen Máxima of the Netherlands. Dr. Huitinga also attended the state banquet at the Blue House, President Park's executive office and official residence.	
2014/11/28	Inge Huitinga participated in talkshow 'Biobanking 2.0'.	Event of BBMRI-NL

*Original Dutch titles were translated in English

Table 2 PR NBB-Psy - overview of public relations activities and articles in 2013 and 2014, focused on psychiatric diagnoses

Date	Title* / description	Medium / information
January 2013	The new brain bank initiative in the Netherlands	Newsletter UK Brain Bank for Autism
March 2013	Collecting brain tissue	Elsevier (magazine)
August 2013	Autism in research: the Netherlands Brain Bank for Psychiatry	Engagement with autism (magazine of Nederlandse Vereniging voor Autisme; autism patient organization)
September 2013	New brain bank for psychiatry: program team in search of donors	De Psychiater (magazine for Dutch Psychiatrists)
September 2013	Brains needed! Netherlands Brain Bank launches donor recruitment for brain research	Ypsilon News (magazine of Ypsilon; schizophrenia family organization)
2013/10/24	Kick-off symposium NBB-Psy (De Rode Hoed, Amsterdam)	Including presentations about the goals and importance of NBB-Psy, research with psychiatric brain tissue, personal experience with psychiatric disease, and music. Video recordings of the symposium were made publicly available online.
2013/10/26	'Detectives in the brain'	Trouw (daily newspaper)
October 2013	What goes wrong in the brain of people with a psychiatric disease?	Article on LPGGZ (website of Dutch national mental healthcare platform)
2013/11/09	Searching for many-headed monsters in the brain	Volkskrant (daily newspaper)
2013/11/14	Interview with Inge Huitinga	Studio MAX Live (TV show)
January 2014	Are you a brain donor already?	Ypsilon News (magazine of Ypsilon; schizophrenia family organization)
January 2014	NBB-Psy: the Netherlands Brain Bank for Psychiatry	Article on KenBiS (website of bipolar disorder knowledge center)
February 2014	Interview with Saskia Palmen on NBB-Psy	NTR Science Café (national radio)
March 2014	NBB-Psy: brain tissue	PlusMinus (magazine of VMDB; bipolar disorder patient organization)
March 2014	NBB-Psy: brain tissue for research	Suzan!¡ (ADHD lifestyle magazine)

*Original Dutch titles were translated in English

Table 2 PR NBB-Psy (continued)

Date	Title* / description	Medium / information
April 2014	NBB-Psy needs brain donors	www.depressievereniging.nl (website of depression patient organization)
May 2014	NBB-Psy: brain tissue for research	Originally on www.nodea.nl, now available on www.nedkad.nl (website of fear and depression knowledge center)
June 2014	Are you a brain donor already? Which information should I provide when registering as a brain donor?	Ypsilon News (magazine of Ypsilon; schizophrenia family organization)
June 2014	NBB-Psy: brain tissue for research	Wetenschappelijk Tijdschrift Autisme (Dutch peer-reviewed scientific journal focused on autism)
June 2014	The Netherlands Brain Bank for Psychiatry	Digital newsletter of knowledge center ADHD
June 2014	NBB-Psy: brain tissue for research	Open Geest (magazine of Anoiksis; schizophrenia patient organization)
July 2014	NBB-Psy Newsletter	Newsletter made available online and sent to all control donors and donors with a psychiatric diagnosis, and other persons involved with the NBB-Psy project.
July 2014	"Kelly wants to contribute to research" (interview) & "The Netherlands Brain Bank for Psychiatry" (article)	Vizier (magazine of Angst, Dwang en Fobiestichting; patient organization for anxiety disorder, OCD and phobia)
Sep 2014	"The Netherlands Brain Bank for Psychiatry" (invitation for expert group autism)	Engagement met autisme (magazine of Nederlandse Vereniging voor Autisme; autism patient organization)
Sep 2014	NBB-Psy: brain tissue for research	Digital newsletter of Stichting Ovaal (organization for parents of children with autism)
Sep 2014	Are you a brain donor already? What will NBB-Psy do with (my) brain(s)?	Ypsilon News (magazine of Ypsilon; schizophrenia family organization)
Sep 2014	Bipolar Genetics & NBB-Psy: an update	PlusMinus (magazine of VMDB; bipolar disorder patient organization)
Oct 2014	Brain tissue for ADHD research	Impuls Magazine (ADHD patient organization)
Oct 2014	NBB-Psy: brain tissue for research	Vizier (magazine of Angst, Dwang en Fobiestichting; patient organization for anxiety disorder, OCD and phobia)

*Original Dutch titles were translated in English

Table 2 PR NBB-Psy (continued)

Date	Title* / description	Medium / information
Nov 2014	Symposium "Psy Brain Tissue Research"	Scientific symposium on post-mortem psychiatric brain research
Dec 2014	The Netherlands Brain Bank for Psychiatry	Newsletter of IMpACT (International Multicentre persistent ADHD Genetics CollaboraTion), sent to all Dutch research participants)

*Original Dutch titles were translated in English

Table 3 Presence of NBB-Psy team members at congresses and events

Date	Venue (diagnosis of focus*)	Additional information
May 2013	Annual NESDA-day, Leiden (MDD)	Poster presentation
June 2013	National VMDB day (BPD)	Information stand
June 2013	11th World Congress of Biological Psychiatry, Kyoto Japan (psychiatry in general)	Presentation by Inge Huitinga
July 2013	Chinese Brain Bank, Hangzhou China (psychiatry in general)	Presentations by Saskia Palmen and Inge Huitinga
Sept 2013	National VMDB day (BPD)	Information stand
Sept 2013	Symposium Balans, Utrecht (ADHD)	Poster presentation
Oct 2013	Symposium 'The apple doesn't fall far from the tree', Nijmegen (ASD & ADHD)	Poster presentation
Oct 2013	Annual Autism congress, Utrecht (ASD)	Information stand
Nov 2013	National Ypsilon day, Maarssen (SCHIZO)	Information stand
Dec 2013	Meeting Kenniscentrum Bipolaire Stoornissen, Utrecht (BPD)	Presentations by Saskia Palmen and Inge Huitinga
Dec 2013	National VMDB day, Utrecht (BPD)	Workshop and information stand
March 2014	Lecture Studium Generale, Utrecht (all)	Presentation by Saskia Palmen
March 2014	National VMDB day, den Bosch (BPD)	Information stand
April 2014	Information market ADHD & ASD, Leidschendam (ASD + ADHD)	Posters and leaflets were sent

*Diagnosis abbreviations are explained in the **List of Abbreviations**

Table 3 Presence of NBB-Psy team members at congresses and events (continued)

Date	Venue (diagnosis of focus*)	Additional information
April 2014	Annual NVvP Spring Congress, Maastricht (psychiatry in general)	Workshop and information stand
April 2014	Peer support and information day on depression, Utrecht (MDD)	Information stand
April 2014	Autism congress RINO Group, Ede (ASD)	Information stand
May 2014	Study day on the overlap between ASD & OCD, Amersfoort (ASD + OCD)	Information stand
June 2014	Lannoo Campus congress 'ADHD Plus!', Utrecht	Information stand
June 2014	National VMDB day, Den Bosch (BPD)	Information stand
Sept 2014	National VMDB day, Den Bosch (BPD)	Information stand
Oct 2014	PsyQ annual ADHD study day, Amersfoort	Presentation by Saskia Palmen
Nov 2014	Impuls theme-evening, Nijmegen (ADHD)	Presentation by research assistant
Nov 2014	Symposium 'Disorders of the Will', Utrecht (psychiatry in general)	NBB-Psy film on brain donation was shown
Dec 2014	National VMDB day, Utrecht (BPD)	Information stand

*Diagnosis abbreviations are explained in the **List of Abbreviations**

Autopsies & Diagnostics

Between 1985 and December 31, 2014, the NBB has obtained brain material from a total number of 3889 autopsies (Figure 10). The NBB performed 98 autopsies in 2013 and 81 autopsies in 2014. This is a decrease compared to previous years, especially 2010 through 2012. However, it is comparable to the years prior to 2008. Figure 9 shows the numbers of autopsies by disease for the last three two-year periods.

Despite the decline in the number of annual autopsies, the number of PD / DLBD autopsies increased in 2013-2014. This might be an effect of the increase in new PD / DLBD donor registrations that took place in 2011-2012. Furthermore, the number of AD autopsies has markedly decreased. In general, for donors with AD there is quite a short time between registration and death. Therefore, the decrease may be an effect of the limited registration policy for AD that was implemented in 2012. The number of control autopsies has also markedly decreased. Other than that, the decrease seems to be distributed evenly across the remaining diagnosis groups. However, especially due to high numbers of new registrations within the NBB-Psy program, we expect the number of autopsies to increase again in future years.

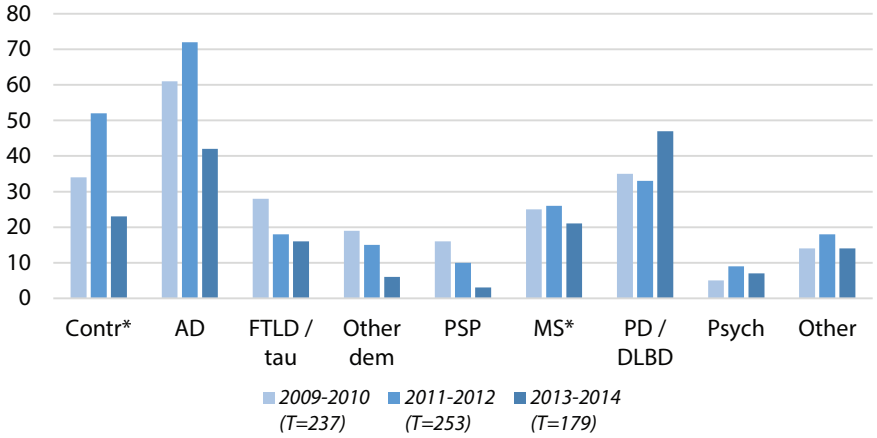

Figure 9 Numbers of autopsies 2009-2014, broken down by diagnosis

*for 1 control autopsy and 8 MS autopsies in in 2014, the clinical diagnosis (instead of final diagnosis) was counted because the final diagnosis had not yet been confirmed.

Figure 10 shows the total number of brain donors (3889) from which the NBB has obtained brain material from 1985 through 2014, broken down by diagnosis.

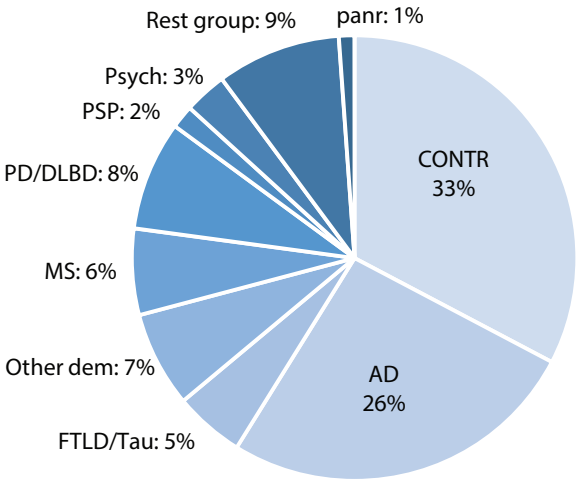

Figure 10 Total number of brain donations since 1985 (3889 on December 31, 2014)

Post mortem delay

Due to autolytic processes, tissue of the central nervous system quickly decays after death and therefore the NBB aims for rapid autopsies within hours after a donor has deceased. The post mortem delay (PMD: time elapsed from a person's death to completion of the brain autopsy) depends on several factors: time of notification of the donor's death, distance and duration of transportation of the body and the availability of brain bank staff to perform the autopsy around the clock. Because PMD has a strong impact on the quality of the tissue (i.e. RNA, DNA and proteins), the NBB has established rapid autopsy protocols relying on 24/7 availability of staff. The NBB achieves short PMDs; the yearly average is generally between 6 and 6.5 hours, whereas the average PMD of other European brain banks is more than 12 hours in most cases. The NBB's yearly average PMD is very stable and the numbers for 2013 and 2014 are in line with previous years (figure 11).

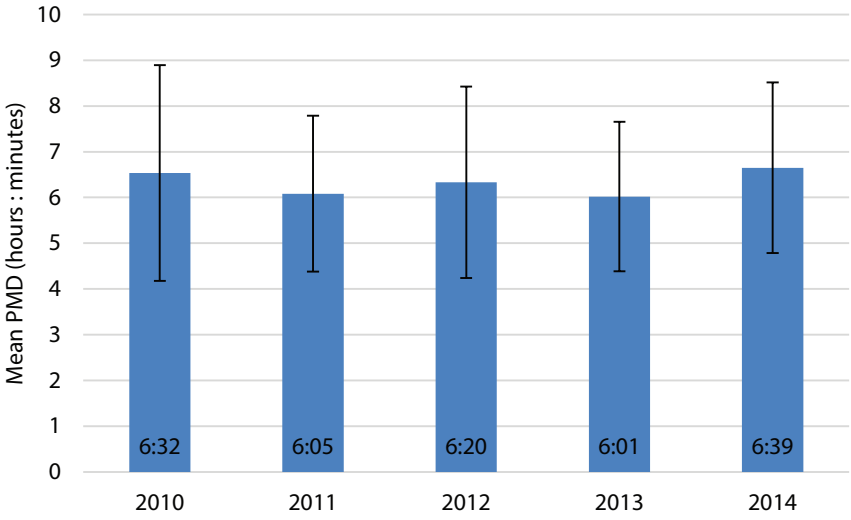

Figure 11 Yearly mean post mortem delay ± standard deviation

Autopsy procedures

Concerning the autopsy procedures, a number of new developments took place in 2013-2014.

Combining brain donation with organ donation

In September 2014, for the first time, brain donation via the NBB was combined with organ donation for transplantation purposes. Because this concerned a person who underwent euthanasia, it was possible to coordinate the organ donation beforehand. Therefore, the organ donation process could be completed more quickly than usual, leaving enough time for brain donation afterwards.

If the circumstances allow for more of such combinations in the future, the NBB will encourage this. However, active involvement of the donors' physician(s) is essential, because organ donation for transplantation purposes cannot be arranged by the NBB, but should be initiated by a registered physician involved with the donor. The same applies to tissue donation for transplantation purposes, although the conditions for tissue donation are less strict, allowing the tissue donation to take place after brain donation in some cases. This concerns tissues such as skin, cornea, heart valves, bone and tendon tissue, cartilage, and blood vessels.

Many people who are registered at the NBB are also registered for organ donation. In most cases this does not lead to conflicts because the conditions for organ donation are much stricter than the conditions for brain donation. In cases where organ donation is possible, and the circumstances don't allow this to be completed in time for subsequent brain donation, the brain donation won't take place. Organ donation takes priority because it can save lives in a more direct manner than brain donation for research purposes, which only has long-term effects.

Eye dissection

As the eye is part of the brain, the NBB collects eyes for research as well. The eyes may be used for investigation of (hereditary) eye diseases or to study similarities between tissues from the eye and the brain. In 2009, on initiative of professor Arthur A. Bergen, the NBB included eyes in its donor program. Researchers can request frozen eyes or fresh eyes (from future autopsies) in medium, such as a normal saline solution. In 2013-2014, eyes have been dissected from 34 donors (19% of the total number of autopsies). On December 31, 2014, there were 1080 living donors who had given separate permission for eye dissection, and eyes had been dissected from

112 donors in total since the start of the eye dissections.

Post mortem program NBB-Psy

The NBB uses different dissection protocols for different diagnoses, because the brain regions that have been affected by pathology differ by diagnosis. Since 2014, a new dissection protocol for psychiatric diagnoses has been added. Previously, the brains of donors with a psychiatric diagnosis were dissected according to the control protocol. The new protocol is more extensive: more samples are dissected, and the protocol takes samples for frozen as well as FFPE storage from both hemispheres. Since the neuropathological substrate for the various psychiatric disorders is not yet fully mapped, the possibility for unilateral pathophysiology exists. To prevent a biased aquisisiton of samples from one hemisphere over the other, and therefore loss of possibly valuable samples, both hemispheres are sampled.

The same protocol is used for each of the seven psychiatric disorders that the NBB-Psy program focuses on. Since 2014, the same NBB-Psy dissection protocol has also been used for autopsies of control donors who are suitable to be used as a control for studies focused on psychiatry. For control donors who are only suitable for comparison in non-psychiatry studies, the original (less extensive) control protocol is still used.

Since 2013, the NBB-Psy team has been setting up a post mortem infrastructure towards the application of novel methods to enrich the brain material:

- Isolation of pure primary microglia and astrocytes;
- Generation of immortalized glial cell lines (microglia and astrocytes) from pure glial cells
- Dissemination of small tissue samples suitable for DNA and RNA isolations, to expand the number of studies that can use the same regions and donor populations
- Generation of induced pluripotent stem cells (iPSCs) from primary skin fibroblasts

iPSCs

Since 2014, a small skin sample (from the back of the head, adjacent to the cut that is made for removal of the brain) has been taken from control donors and donors with a psychiatric diagnosis. From these skin samples, fibroblasts are isolated to generate iPSCs in the Erasmus Stem Cell Centre (Headed by Prof. Joost Gribnau and

dr.Mehrnaz Ghazvini) for dissemination by NBB-psy. Once generated, iPSC lines can be stored in liquid nitrogen until use. Through the use of established protocols, iPSCs can be differentiated into neural stem cells, and subsequently used to generate donor-specific neurons and glial cells. At the end of 2014, skin fibroblasts from 10 different donors (both psychiatric and control) were successfully processed as described.

Glia isolations

During 2014, the protocol used for the isolation of pure microglia from post-mortem CNS samples was improved to obtain higher yields in a shorter processing time (4 hours). This protocol will be the standard operating procedure for all Psy autopsies starting from 2015. Microglia will be isolated from both occipital cortex and corpus callosum, and stored as biobank samples. A procotol for the isolation of pure astrocytes will be developed from the start of 2015.

Post mortem diagnostics

After completion of an autopsy the brain tissue is fixed in formalin for four weeks. After fixation, approximately eighteen standard regions of tissue are embedded in paraffin, cut and (immuno)histochemically stained. These sections are evaluated by one of our neuropathologists according to the latest international diagnostic criteria. Together with the clinical diagnosis this provides the final diagnosis. This post mortem diagnostic procedure is essential because the neuropathological diagnosis regularly differs from the initial clinical diagnosis. With the exception of fresh samples for culture purposes, the brain material is available for researchers only after the neuropathological diagnosis has been determined. This ensures that they receive samples of the diagnosis that they have applied for.

To further improve the available diagnostic information, for Parkinson's Disease (PD), Frontotemporal dementia (FTD) and multiple sclerosis (MS), the general diagnostic procedures are supplemented by additional specialized diagnostics. For PD and FTD, the NBB closely collaborates with Dr. W.D.J. van de Berg (Dept. of Anatomy and Neurosciences) and Prof. Dr. J.M. Rozemuller (Dept. of Pathology) from VU medical center Amsterdam. Dr. van de Berg identifies early PD pathology in donors who were still classified as control donors clinically and neuropathologically, and Dr. Rozemuller retrospectively diagnoses cases of FTD according to the most recent scientific diagnostic criteria. For MS, until 2012 the NBB had already retrospectively characterized the full collection of MS lesions tissue blocks for stages of inflammation and demyelination with the aid of a grant of de Vriendenloterij. In 2013 and 2014, this characterization has continued for new MS autopsies. This enables the correlation of pathological, genetic and clinical data, in order to investigate whether specific pathology of MS relates to a specific clinical course and genetic background.

In 2013, Dr. Wouter Kamphorst has retired from his neuropathological work for the NBB after more than 25 years. We are very grateful for his long and dedicated service.

Tissue supply

Research institutes

Since 2007, the NBB has used a Material Transfer Agreement (MTA) to ensure the rights and obligations of both the NBB and the tissue recipients. Researchers can only receive tissue when an MTA is in place between the NBB and the researcher's organization. Once both parties have signed the MTA, which is valid for an indefinite period of time unless specified otherwise, any researcher within the institute can apply for tissue. For each individual tissue delivery, an implementing letter is signed, which is considered an appendix of the master MTA. As of December 31, 2014, the NBB has entered into agreement with 141 organizations in total: 124 universities / research institutes (non-profit) and 17 pharmaceutical companies (for profit). In 2013 and 2014, 21 new MTA's were signed: 18 with non-profit organizations and 3 with pharmaceutical companies.

Number of tissue requests

Since the NBB's tissue sample dissemination procedure was professionalized in 2007, the number of tissue requests for new research projects has varied between approximately 40 and 60 per year. However, in 2014, the NBB received 70 requests for new projects, which is markedly higher (figure 12). Of the 44 new applications received in 2013, 7 were from for profit organizations (pharmaceutical companies). Of the 70 new applications received in 2014, 9 were from for profit organizations.

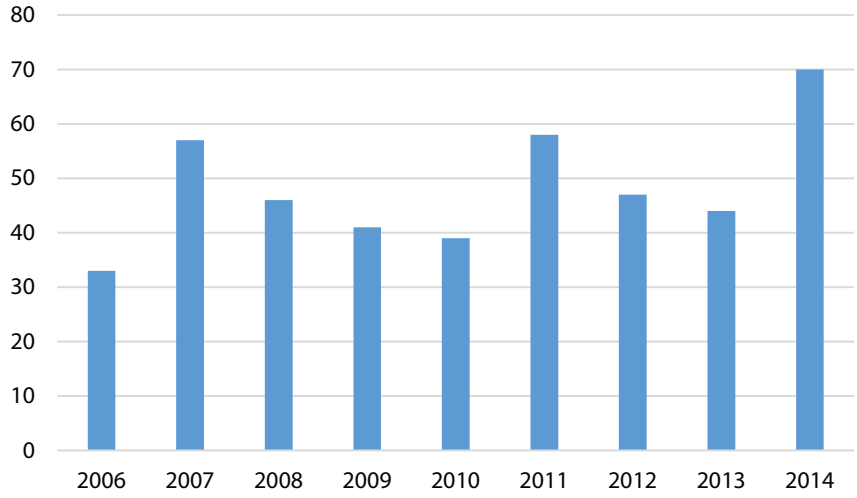

Figure 12 Tissue requests for new projects in 2006-2014

When a researcher requests additional samples for a research line that has already received NBB samples previously, this is called a supplementary application. Figure 13 shows the numbers of supplementary applications that the NBB received in 2013-2014. Of the 63 supplementary applications received in 2013, 9 were from for profit organizations. Of the 90 supplementary applications received in 2014, 12 were from for profit organizations. Two types of supplementary applications can be distinguished: regular supplementary applications and continuous projects. Regular supplementary applications are reviewed on an individual basis. For each regular supplementary application, a separate implementing letter is signed.

In most cases, continuous projects concern requests for fresh tissue samples. Because these samples should be collected from future autopsies, not all samples can be supplied at once. Therefore, one implementing letter is signed at the start of the project (mentioning the total number of samples to be supplied), or multiple implementing letters are signed, each after a fixed interval such as once every quarter or once every year. In figure 13, such projects are counted once per year, even though they may have received samples from many separate autopsies.

Some continuous projects request tissue from the existing stock of NBB tissue multiple times per year. For these projects, implementing letters are also signed quarterly or yearly. In figure 13, such projects are counted once for each separate sample set that

was delivered (once per delivery date).

Some continuous projects receive both fresh samples and samples from the general NBB stock. These projects are counted once per year (for the fresh samples), plus once for each separate delivery date of samples from stock.

Figure 13 also shows the number of new applications in 2013-2014 again. When new and supplementary applications are added up, the NBB received 107 tissue requests in 2013 and 160 tissue requests in 2014.

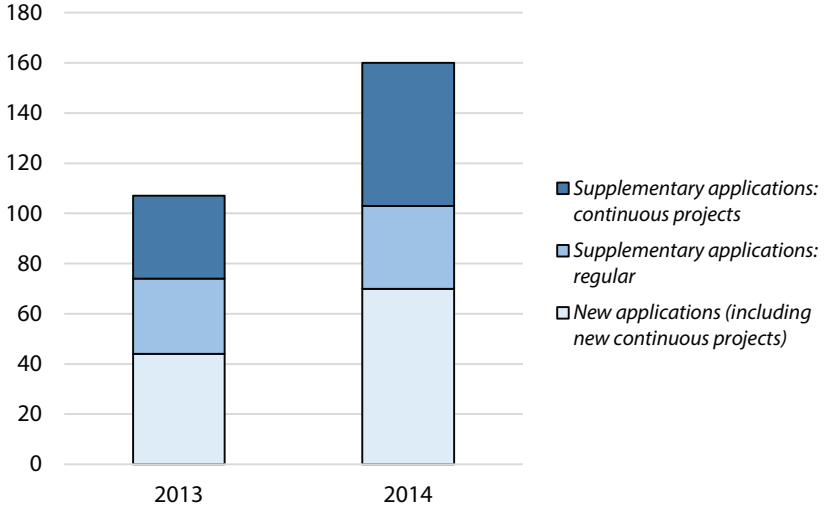

Figure 13 All tissue requests in 2013-2014

In 2013 and 2014 there were 12 cases where tissue inquiries led to requests that could not be approved (mostly due to scarcity of the requested samples combined with suboptimal quality of the research plan) or where approved requests did not lead to transfer of samples (e.g. due to financial problems - rejected grant applications - of the researcher, or difficulties in meeting local requirements for transfer of post mortem human samples). In addition, the NBB received 27 tissue inquiries that did not lead to an actual application. In those cases, information about availability and the application process was sent to the researcher, but the researcher never actually applied for tissue.

The **e-NBB**[1] is the NBB's online tissue database where researchers may view the

1 http://www.e-nbb.org/

available tissue and make their own preliminary tissue selection. Between the launch of the e-NBB in late 2011 and December 31, 2014, 337 users had registered.

Number of samples supplied to research projects

In 2013, 2497 tissue samples were supplied to researchers, which is markedly less than usual. Although the number of supplied samples in 2007 was comparable (2909 samples), the usual yearly number was around 4500 in 2008-2012. In 2014, however, 4346 samples were supplied again. When this progress report was published, the numbers for 2015 were also already available. In 2015, 5611 samples were supplied, which may indicate that the low numbers of 2013 were incidental. Figure 14 shows the supplied tissue units for the last four two-year periods, broken down by diagnosis.

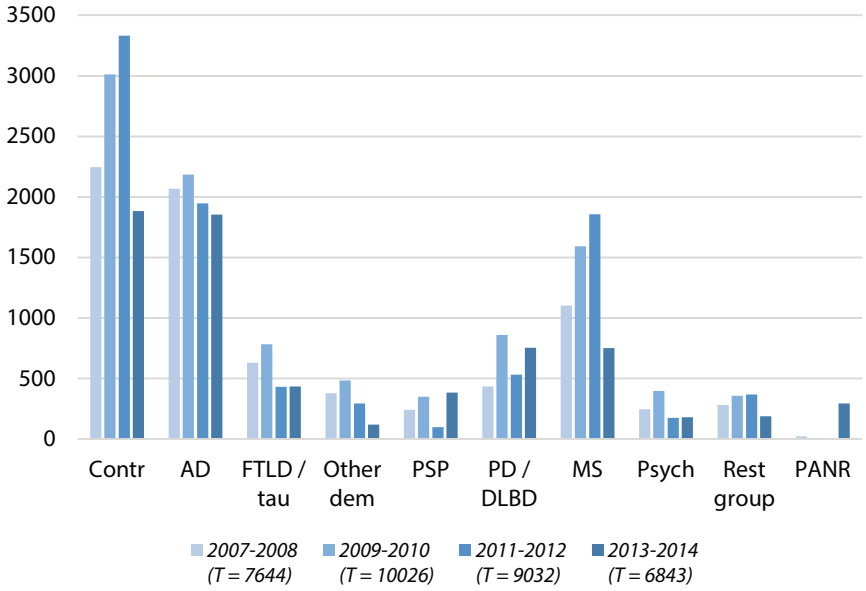

Figure 14 Supplied tissue units in 2007-2014, broken down by diagnosis

When the distribution across diagnoses in 2013-2014 is compared to previous periods, relatively less control and MS samples were supplied (even less than would be expected considering the general decrease in number of supplied samples), and relatively more PSP, AD and PD/DLBD samples were supplied (comparable to the numbers in previous years, despite the general decrease in 2013-2014).

In line with the non-profit / for profit distribution of the research projects that

requested tissue, the majority of tissue samples were supplied to researchers affiliated to universities or other non-profit organizations. In 2013, 475 units (from a total of 2497) were supplied to for profit organizations. In 2014, 511 units (from a total of 4346) were supplied to for profit organizations. These numbers are much higher than those of 2012 (59 units to for profit organizations), but comparable to 2011 (470 units).

The number of supplied samples from donors with a psychiatric diagnosis is still low, due to the very limited availability of these samples. The NBB-Psy project aims to increase the future availability of these samples. To prepare researchers for this, on November 18, 2014, a research symposium was organized by the NBB-Psy team. During the symposium, examples of research with post mortem brain material of donors with psychiatric diagnoses were presented, in order to illustrate the specific possibilities.

Figure 15 shows the number of supplied tissue units broken down by type of storage. In 2013-2014, frozen and FFPE samples remained the type for which demand was highest. The proportion of fresh samples is comparable to previous years, and the proportion of fixed samples has decreased.

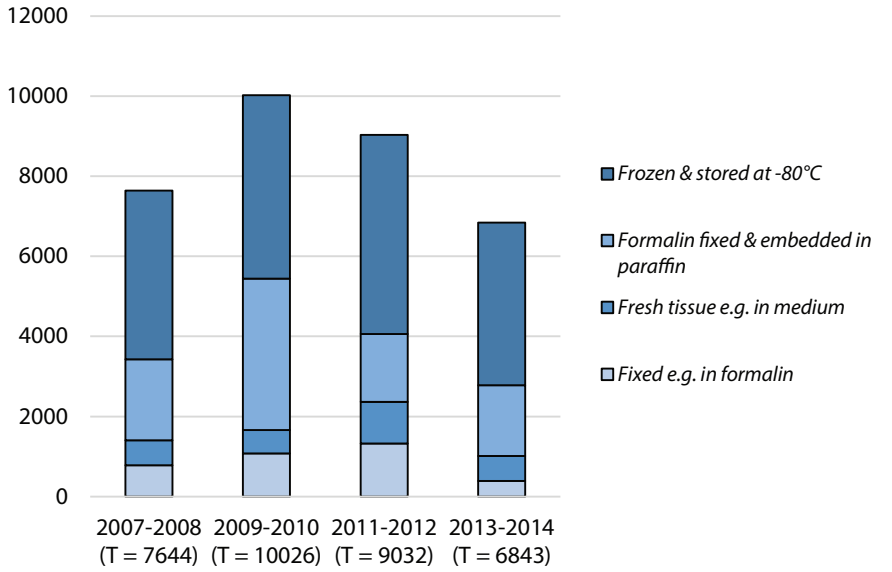

Figure 15 Supplied tissue units by type of storage, 2007-2014

Finances

The NBB receives structural financial support from the Royal Netherlands Academy of Arts and Sciences (KNAW) and the Netherlands Institute for Neuroscience (NIN), but other than that it is almost completely dependent on grants, donations and the financial contributions from researchers who use NBB material.

General grants

Grant	2013	2014
Structural contribution from KNAW	€ 224,144	€ 220,000
Structural contribution from NIN	€ 100,000	€ 100,000
Stichting MS Research	€ 106,254	€ 111,096
Stichting ParkinsonFonds	€ 0	€ 36,250
Hersenstichting	€ 11,000	€ 15,000
Stichting Zabawas	€ 0	€ 16,430

Project-based grants

Funding organization	Project	Period	Amount
NWO (Netherlands Organisation for Scientific Research)	The Netherlands Brain Bank for Psychiatry (NBB-Psy)	15-9-2012 - 15-9-2017	€ 3,450,000*
Vriendenloterij	Characterization of the MS tissue collection of the NBB	1-5-2010 - 1-5-2014	€ 365,000**

The NBB-Psy grant was jointly granted to the NBB and the five participating Dutch university medical centers for setting up the separate NBB-Psy program. The project and its budget are coordinated by the NBB.

The funding from Vriendenloterij was granted to the Netherlands Brain Bank in collaboration with Stichting MS Research, which enabled the Neuroimmunology research group of the Netherlands Institute for Neuroscience to characterize all MS lesions of NBB donors. Now this project has been finished, we are very grateful that in February 2014, the Vriendenloterij has again granted the NBB (in collaboration

with Stichting MS Research) € 295,000 for a new project starting May 1, 2015. In this project, the Neuroimmunology research group will use NBB samples to research the differences in MS between men and women, and the use of body chemicals (sex hormones) to positively influence the disease course of MS.

The necessity of grants

The costs to make tissue available for research are approximately € 800,000 per year. Without the help of patient organizations and other funding agencies, the NBB would not be able to maintain its high standards, and it is only thanks to the received funding that the NBB is able to continue brain banking.

Stichting MS Research[1] (MS Research Foundation) has been funding the NBB for many years, resulting in an increase of the number of MS donors and in the availability of MS tissue. Due to the special MRI-guided dissection protocol, the autopsy costs for MS are higher than for other autopsies. Moreover, the clinical history of MS patients is often more extensive and the summarization of the medical information requires a greater effort. Lastly, in-depth neuropathological diagnostics of the MS plaques is time-consuming, but indispensable for good tissue dissemination. MS Research covers the costs of all MS autopsies and of some control autopsies.

The grants of **Stichting ParkinsonFonds**[2] (Parkinson Fund Foundation) cover the costs of some of the Parkinson autopsies and some donor recruitment activities, which would not be possible without this additional funding.

Funding by **Hersenstichting**[3] (Brain Foundation) and **Stichting Zabawas**[4] (Zabawas Foundation) is used to cover costs for donor recruitment, autopsies and administration.

Private donations

Stichting Vrienden van het Herseninstituut (Friends of the Netherlands Institute for Neuroscience Foundation) helps the NBB to reach its objectives by giving financial support.

1 http://www.msresearch.nl/
2 http://www.parkinsonfonds.nl/
3 http://www.hersenstichting.nl/
4 http://www.zabawas.nl/

In 2013, we received € 27,814 in donations through this foundation, and in 2014 we received € 6,731. Financial donations remain vital to the continued existence of the NBB and are thus very welcome. If you wish to help, please make your donation to: Stichting Vrienden van het Herseninstituut, IBAN: NL76INGB0002167378; BIC: INGBNL2A), mentioning "NBB".

Because the foundation also raises money for the Netherlands Institute for Neuroscience in general, mentioning "NBB" ensures that your donation reaches us. The Foundation is registered at the Dutch Chamber of Commerce under registration no. 41205869.

We are very grateful for all grants and donations. The work of the NBB would not be possible without the support of numerous foundations and patient organizations, and the enthusiastic dedication of individuals.

Research projects 2013-2014

The abstracts can be downloaded from our website by clicking on the names below or by visiting **http://www.brainbank.nl/research/projects**.
In this list, only the affiliation of the first-mentioned researcher is mentioned. Full affiliation information is included in the abstracts.

National

The first-mentioned researcher's main affiliation is an organization based in the Netherlands.

Alkemade, A., Balesar, R., Zhao, J., Swaab, D.F., and Forstmann, B.U. Amsterdam Brain and Cognition Center, University of Amsterdam. Immunocytochemical characterization of the human subthalamic nucleus.

Bisschop, P.H., Dekker, M.J., Osterthun, W., Kwakkel, J., Anink, J.J., Boelen, A., Unmehopa U.A., Koper, J.W., Lamberts, S.W., Stewart, P.M., Swaab, D.F., and Fliers, E. Department of Endocrinology & Metabolism, Academic Medical Center, Amsterdam. Expression of 11β-hydroxysteroid dehydrogenase type 1 in the human hypothalamus.

Bonifati, V. Department of Clinical Genetics, Erasmus MC, Rotterdam. Characterization of the FBXO7 (PARK15) protein.

Borgers, A.J., Fliers, E., Siljee, J.E., Swaab, D.F., Van Someren, E.J., Bisschop, P.H., and Alkemade, A. Department of Endocrinology and Metabolism, Academic Medical Center, University of Amsterdam. Arginine vasopressin immunoreactivity is decreased in the hypothalamic suprachiasmatic nucleus of subjects with suprasellar tumors.

Borgers, A.J., Koopman, K.E., Bisschop, P.H., Serlie, M.J., Swaab, D.F., Fliers, E., La Fleur, S.E., and Alkemade, A. Department of Endocrinology and Metabolism, Academic Medical Center, University of Amsterdam. Decreased serotonin transporter immunoreactivity in the human hypothalamic infundibular nucleus of overweight subjects.

Brouwer, N., Eggen, B.J., and Boddeke, H.W. Department of Neuroscience, University Medical Center Groningen. Analysis of age-related changes in gene expression in human microglia.

Bsibsi, M., Peferoen, L.A., Holtman, I.R., Nacken, P.J., Gerritsen, W.H., Witte, M.E., Van Horssen, J., Eggen, B.J., Van der Valk, P., Amor, S., and Van Noort, J.M. Delta Crystallon, Leiden, and VU University Medical Center, Amsterdam. Demyelination during multiple sclerosis is associated with combined activation of microglia/macrophages by IFN-γ and alpha B-crystallin.

Bugiani, M., and Van der Knaap, M.S. Departments of Pediatrics / Child Neurology and Pathology, VU University Medical Centre, Neuroscience Campus Amsterdam, Amsterdam.

Unraveling disease mechanisms in genetic white matter disorders.

Bulk, M., Van der Graaf, L., Mulders, C., Natté, R., Hassan, W., Dijkstra, J., Van der Voorn, P., Van de Berg, W., Van Buchem, M., and Van der Weerd, L. Departments of Radiology & Human Genetics, Leiden University Medical Center. Pathological correlates of cortical changes in Alzheimer's disease at ultra-high field MRI.

Chrobok, N., Bol, J., and Van Dam, A.M. Dept. Anatomy and Neurosciences, VU University Medical Center, Amsterdam. Characterization of tissue Transglutaminase expression in active white and grey matter MS lesions.

Gorgels, Th.G.M.F. and Bergen, A.A.B. Netherlands Institute for Neuroscience, Amsterdam, and University Eye Clinic Maastricht, MUMC+, Maastricht. Choroid Plexus and Retinal Pigment Epithelium: Two of a kind?

Gorgels, Th.G.M.F. and Webers, C.A.B. University Eye Clinic Maastricht, MUMC+, Maastricht. From genes to glaucoma: identifying glaucoma pathways.

Grand Moursel, L., Munting, L., Van der Graaf, L., Van Duinen, S., Van Roon-Mom, W., Van Buchem, M., Van der Maarel, S., and Van der Weerd, L. Departments of Radiology, Human Genetics, and Pathology, Leiden University Medical Center. TGFβ signalling in HCHWA-D: exploring new therapy targets against CAA.

Hendrickx, D.A. and Huitinga, I. Department of Neuroimmunology, Netherlands Institute for Neuroscience, Amsterdam. Mechanisms of myelin phagocytosis.

Hepp, D.H., Rozemuller, A.J.M., Groenewegen, H.J., Berendse, H.W., Foncke, E.M.J., and Van de Berg, W.D.J. Department of Anatomy and Neurosciences, Department of Neurology, VU University Medical Center, Amsterdam. The pathological substrate of visual hallucinations in Parkinson's disease patients.

Heutinck, K.M., Van Eden, C.G., Schuurman, K.G., Smolders, J., Ten Berge, I.J.M., Van Lier, R.A.W., Huitinga, I., and Hamann, J. Academic Medical Center, University of Amsterdam. Characterization of brain T cells in multiple sclerosis.

Hondius, D.C., Van der Schors, R.C., Hoozemans, J.J.M., Van Nierop, P., Van der Vies, S.M., Li, K.W., Rozemuller, J.M., and Smit, A.B. Department of Pathology, VU University Medical Center, and Department of Molecular and Cellular Neurobiology, Center for Neurogenomics and Cognitive Research, VU University Amsterdam, Neuroscience Campus Amsterdam. Changes in the human hippocampal proteome during Alzheimer's disease.

Hoogerhout, P. Research Department, Institute for Translational Vaccinology (Intravacc), Bilthoven. A peptide vaccine against Parkinson's Disease.

Hoozemans, J., Scheper, W., Lucas, J., Rozemuller, J.M. Department of Pathology, VU University Medical Center, Neuroscience Campus Amsterdam. Unfolded protein response in Huntington's disease.

Hoozemans, J.J.M., Meijers Heijboer, E.J., Rozemuller, J.M., Scheltens, P., Smit, A.B., and Holstege, H. Dept of Pathology, Dept. of Clinical Genetics, and Alzheimer center, VU University Medical Center, Amsterdam. 100-plus Study: Protection against cognitive decline.

Huitinga, I., Michailidou, I., Van Strien, M.E., Van Eden, C., Fluiter, K., Neal, J.W., Giles, J., Morgan, B.P., Baas, F., and Ramaglia, V. Department of Neuroimmunology, Netherlands Institute for Neuroscience, Amsterdam. Identification of a key role for complement in

neurodegeneration in multiple sclerosis.

Ingrassia, A., Dijkstra, A.A., Van Dijk K.D., Rozemuller, A.J.M., Heutink, P., and Van de Berg, W.D.J. Dept. of Anatomy and Neurosciences and Dept. of Pathology, VU University Medical Center, Amsterdam. Chasing genes and proteins involved in disease progression in Parkinson's disease.

Iyer, A.M., Anink, J.J., Prabowo, A.S., Milenkovic, I., Kovács G.G., and Aronica, E. Department of (Neuro)Pathology, Academic Medical Center, University of Amsterdam.

Kamar, S., Howlett, M., Klooster, J., Kamermans, M. Retinal Signal Processing Group, Netherlands Institute for Neuroscience, Amsterdam. Functional Properties of Photoreceptors in Cultured Human Retina.

Klaver, R., Nijland, P., Schenk, G.J., Baks-te Bulte, L.T.G., Van het Hof, B., Van Horssen, J., De Vries, H.E., and Geurts, J.J.G. Dept. of Anatomy and Neurosciences, Dept. of Molecular cell biology and Immunology, and Dept. of Pathology, VU University Medical Center, Amsterdam. Induction of kir6.2 and KCNQ4 potassium channels in NAGM of chronic MS patients.

Klaver, R., Popescu, V., Voorn, P., Galis-de Graaf, Y., Van der Valk, P., De Vries, H.E., Schenk, G.J., and Geurts, J.J.G. Department of Anatomy & Neurosciences, VU University Medical Center, Amsterdam. Neuronal and axonal loss in NAGM and subpial lesions in multiple sclerosis.

Kramvis, I., Mansvelder, H., and Meredith, R. Integrative Neurophysiology Department, Center for Neurogenomics and Cognitive Research, VU University Amsterdam. Postmortem Human Brain Physiology.

Laarman, M., Vermunt, M., Geven, G., De Laat, W., Creyghton, M., Rinkel, G., Ruigrok, Y., and Bakkers, J. University Medical Center Utrecht and Hubrecht Institute, Utrecht. Characterization of the functional relevance of genetic variants identified in genome wide association studies on intracranial aneurysm.

Lucassen, P.J., SILS-CNS, University of Amsterdam, Amsterdam. Distribution of the glucocorticoid receptor in the human amygdala; changes in mood disorder patients.

Lucassen, P.J., SILS-CNS, University of Amsterdam, Amsterdam. Glucocorticoid receptor protein expression in human hippocampus in relation to age.

Lucassen, P.J., SILS-CNS, University of Amsterdam, Amsterdam. Hippocampal proliferation in Parkinson's disease; a role for microglia?

Lucassen, P.J., SILS-CNS, University of Amsterdam, Amsterdam. Microglia in the olfactory bulb of Parkinson's and Alzheimer's patients.

Lucassen, P.J., SILS-CNS, University of Amsterdam, Amsterdam. Microglial phenotypes and toll-like receptor 2 in the substantia nigra and hippocampus of incidental Lewy body disease cases and Parkinson's disease patients.

Lucassen, P.J., SILS-CNS, University of Amsterdam, Amsterdam. Proliferation in the Alzheimer hippocampus.

Lucassen, P.J., SILS-CNS, University of Amsterdam, Amsterdam. Stress hormone receptors in the human prefrontal cortex and hypothalamic paraventricular nucleus of depressed patients.

Luchetti, S., Cossu, S., Sluiter, A., Liere, Ph., Hofstee, M., Aronica, E., Schumacher, M., Swaab, D.F., and Huitinga, I. Neuroimmunology Research Group, Netherlands Institute for Neuroscience, Amsterdam. Neurosteroids as neuroprotective, pro-myelinating and anti-inflammatory agents in Multiple Sclerosis.

Luchetti, S., Van Eden, C.G., Schuurman, K., Van Strien, M.E., Swaab, D.F., and Huitinga, I. Department of Neuroimmunology, Netherlands Institute for Neuroscience, Amsterdam. Gender differences in multiple sclerosis: induction of estrogen signaling in male and progesterone signaling in female lesions.

Luchetti, S., Verwer, R., Sluiter, A., Liere, Ph., Huitinga, I., Schumacher, M., and Swaab, D. Neuroimmunology Research Group and Neuropsychiatric Disorders Group, Netherlands Institute for Neuroscience, Amsterdam. Neurosteroids as potential neuroprotective agents in Parkinson's disease: implications for new therapeutic strategies.

Moors, T.E., Paccioti, S., Ingrassia, A.M.T., Chiasserini, D., Eusebi, P., Calabresi, P., Parnetti, L., Beccari, T., Van de Berg, W.D.J. Dept. Anatomy and Neurosciences, Neuroscience Campus Amsterdam, VU University Medical Center, Amsterdam. Evaluation of changes in GCase activity and substrate levels in human brain from PD / Lysosomal enzyme activities in postmortem brain tissue of patients with Lewy Body Diseases.

Peferoen, L.A., Vogel, D.Y., Ummenthum, K., Breur, M., Heijnen, P.D., Gerritsen, W.H., Peferoen-Baert, R.M., Van der Valk, P., Dijkstra, C.D., and Amor, S. Department of Pathology, VU University Medical Center, Amsterdam. Activation status of human microglia is dependent on lesion formation stage and remyelination in multiple sclerosis.

Pelzer, N., Klever, R.R., Ferrari, M.D., Van den Maagdenberg, A.M.J.M., Van Duinen, S.G., and Terwindt , G.M. Department of Neurology, Leiden University Medical Center, Leiden. Pathophysiology of Retinal Vasculopathy and Cerebral Leukodystrophy – involvement of endothelial and pericyte dysfunction.

Philippens, I., Ormel, P., Baarends, G., and Remarque, E. Biomedical Primate Research Centre (BPRC), Rijswijk. Acceleration of amyloidosis by inflammation in the amyloid-beta Marmoset monkey model of Alzheimer's disease.

Popescu, V., Klaver, R., Versteeg, A., Voorn, P., Twisk, J.W.R., Barkhof, F., Geurts, J.J.G., and Vrenken, H. Department of Radiology and Nuclear Medicine, VU University Medical Center, Amsterdam. Post-mortem validation of MRI cortical volume measurements in MS.

Popescu, V., Klaver, R., Voorn, P., Galis-de Graaf, Y., Knol, D.L., Twisk, J.W.R., Versteeg, A., Schenk, G.J., Van der Valk, P., Barkhof, F., De Vries, H.E., Vrenken, H., and Geurts, J.J.G.. Department of Radiology and Nuclear Medicine, VU University Medical Center, Amsterdam. What drives MRI-measured cortical atrophy in multiple sclerosis?

Rizzu, P., Cortez, L.P., Rizzu ,P., Francescatto , M., Sanchez ,J.S., and Heutink, P. Medical Genomics, VU Medical Center, Amsterdam. Regional differences in gene expression and promoter usage in aged human brains.

Schenk, G.J., Klaver, R., Klauser, A., Tsutsui, S., Poon, K., Van Minnen, J., Stys P.K., and Geurts, J.J.G. Dept. of Anatomy & Neuroscience, Div. of Clinical Neuroscience, VU University Medical Center, Amsterdam. Pathobiology of MS: complex interplay between degeneration and inflammation.

Schwab, B.C., Van Gils, S.A., Heida , T., and Van Wezel, R.J.A. Applied Analysis and Mathematical Physics, University of Twente, Enschede. A Possible Role of Neural Gap Junctions in Parkinson's disease Pathology.

Siljee, J.E., Unmehopa, U.A., Kalsbeek, A., Swaab, D.F., Fliers, E., and Alkemade, A. Department of Endocrinology and Metabolism, Academic Medical Center, Amsterdam. Melanocortin 4 receptor distribution in the human hypothalamus.

Smit, A.B. et al. Center for Neurogenomics and Cognitive Research, VU University Amsterdam. Prefrontal cortex proteomics analysis in Schizophrenia.

Sneeboer, M.A.M., Litjens, M., Melief, J., Van der Doef, T., Palmen, S.J.M.C., Hol, E.M., Kahn R.S. and De Witte, L.D. UMC Utrecht Brain Center Rudolf Magnus, Utrecht. The role of microglia in the pathogenesis of schizophrenia.

Stedehouder, J., Mientjes, E.J., Demmers, J., Verdijk, R., Kros, M., Elgersma, Y., and Kushner, S.A. Department of Psychiatry, Erasmus MC, Rotterdam. Extracellular Matrix Abnormalities in Schizophrenia.

Van der Pol, S. and Van Horssen, J. Dept. of Molecular Cell Biology and Immunology, VU University Medical Center, Neuroscience Campus Amsterdam, Amsterdam. Establish a human in vitro model mimicking grey matter MS pathology.

Van Horssen, J., and Huitinga, I. Dept Molecular Cell Biology and Immunology, VU University Medical Center, Amsterdam.

Van Luijn, M.M., Kreft, K.L., Jongsma, M.L.M., Mes, S.W., Wierenga-Wolf, A.F., Van Meurs, M., Melief, M.J., Van der Kant, R., Janssen, L., Janssen, H., Priatel, J.J., Tan, R., Neefjes, J., Laman, J.D., and Hintzen, R.Q. Department of Immunology, MS Centre ErasMS, Erasmus MC, Rotterdam. CLEC16A shows increased expression in multiple sclerosis and functions as a direct regulator of the HLA class II antigen presentation pathway.

Van Nierop, G.P., Hintzen, R.Q, and Verjans, G.M.G.M. Department of Viroscience and the ErasMS center at the department of Neurology, Erasmus MC, Rotterdam. Specificity and phenotype of T cells in multiple sclerosis lesions.

Van Riel, D., Leijten, L., Osterhaus A., and Kuiken, T. Department of Viroscience, Erasmus MC, Rotterdam. Influenza virus entry into the CNS via the olfactory nerve.

Van Strien, M.E. Department of Translational Neuroscience, Brain Center Rudolf Magnus, University Medical Center Utrecht. Neural stem cells in the spinal cord of Multiple Sclerosis patients.

Van Strien, M.E., Sluijs, J.A., and Hol, E.M. Dept. Translational Neuroscience, Brain Center Rudolf Magnus, University Medical Center Utrecht, Utrecht. Towards mobilizing the brain's own neural stem cells to restore striatal dysfunction in Parkinson patients.

Van Swieten, J.C. et al. Department of Neurology, Erasmus Medical Center, Rotterdam. AD epigenetics

Van Swieten, J.C. et al. Department of Neurology, Erasmus Medical Center, Rotterdam. Clinicopathological correlation in FTD.

Van Swieten, J.C. et al. Department of Neurology, Erasmus Medical Center, Rotterdam. PRKAR1B mutation associated with a new neurodegenerative disorder with unique pathology.

Van Velzen, M., Osterhaus, A.D.M.E. and Verjans, G.M.G.M. Department of Viroscience, Erasmus MC, Rotterdam. Latent herpes simplex virus infections of sensory neurons of the human peripheral nervous system.

Veerhuis, R. and Hoozemans, J. Dept. of Clinical chemistry, Alzheimer center, and dept. of Pathology, VU university medical center, Amsterdam. Analysis of mediators of inflammation in Alzheimer's disease.

Wilhelmus, M.M.M. and Drukarch, B. Department of Anatomy and Neurosciences, VU University Medical Center, Amsterdam. Distribution of cross-linking enzymes, their activity and their substrates in Alzheimer's disease brain.

International

Adav, S.S. and Sze, S.K. School of Biological Sciences, Nanyang Technological University, Singapore. Brain site-specific protein deamidation in Alzheimer's disease.

Albrecht, S., Ghelman, J., Kemming, C., and Kuhlmann, T. Institute of Neuropathology, University Hospital Münster, Münster, Germany. Extent of remyelination in spinal cord lesions compared to brain lesions.

Bergström, J. and Almandoz-Gil, L. Department of Public Health and Caring Sciences, Uppsala University, Sweden. Immunohistochemical analysis of Lewy body pathology using polyclonal alpha-synuclein antibodies with the aim to improve immunological detection.

Bernis, M.E. and Tamgüney, G. German Center for Neurodegenerative Diseases (DZNE), Bonn, Germany. Assessment of prion-like behavior of pathologic protein aggregates from ALS patients.

Blázquez C., Chiarlone A., Resel E., Ruiz, A., Galve-Roperh I., and Guzmán, M. Dept Biochemistry and Molecular Biology I, School of Biology; CIBERNED, Centro Investigación Biomédica en Red Enfermedades Neurodegenerativas, Complutense University, Madrid, Spain. Neuroprotective role of CB1 cannabinoid receptor in Huntington's disease and experimental models.

Bogie, J.F.J., Jorissen, W., Mailleux, J., Nijland, Ph.G., Zelcer, N., Vanmierlo, T., Van Horssen2, J., Stinissen, P., Hellings, N., and Hendriks, J.J.A. Biomedical Research Institute, School of Life Sciences, Hasselt University / Transnational University Limburg, Diepenbeek, Belgium. Myelin alters the inflammatory phenotype of macrophages by activating PPARs.

Bogie, J.F.J., Vanmierlo, T., Van Horssen, J., Stinissen, P., Hellings, N. and Hendriks, J.J.A. Hasselt University / Transnational University Limburg, Biomedical Research Institute, School of Life Sciences, Diepenbeek, Belgium. Induction of COLEC12 expression on myelin-phagocytosing macrophages and in active MS lesions.

Breuer, J., Schneider-Hohendorf, T., Schwab, N., and Wiendl, H. Department of Neurology, University of Münster, Münster, Germany. Analysis of the expression of laminin alpha-4 on choroid plexus tissue.

Breuer, J., Schneider-Hohendorf, T., Schwab, N., and Wiendl, H. Department of Neurology, University of Münster, Münster, Germany. Analysis of the expression of VLA2 on lymphocytes in Multiple Sclerosis lesions.

Broux, B., Mizee, M.R., Vanheusden, M., Van der Pol, S., Van Horssen, J., Van Wijmeersch, B., Somers, V., De Vries, H.E., Stinissen, P., and Hellings, N. Biomedical Research Institute, Hasselt University, Belgium. Interleukin-15 amplifies the pathogenic properties of CD4+CD28- T cells in multiple sclerosis.

Broux, B., Peter, Ch., Bourbonnière, L., Duquette, P., Korn, Th., Stinissen, P., Prat, A., and Hellings, N. Biomedical Research Institute, Hasselt University, Belgium. The unexplored role of interleukin-24 in multiple sclerosis.

Bruch, J., Xu, H., De Andrade, A., and Höglinger, G. German Centre for Neurodegenerative Diseases (DZNE), Tubingen, Germany. Mitochondrial Complex 1 Inhibition Increases

4-Repeat Isoform Tau by SRSF2 Upregulation.

Chalmoukou, K. Neuroimmunology Unit, Dept. of Pathophysiology-Faculty of Medicine, National and Kapodistrian University of Athens, Athens, Greece. Determination of human anti-MOG antibodies binding patterns in optic nerves.

Choi, E.Y. Lim, J.H., Neuwirth, A., Economopoulou, M., Chatzigeorgiou, A., Chung, K.J., Bittner, S., Lee, S.H., Langer, H., Samus, M., Kim, H., Cho, G.S., Ziemssen, T., Bdeir, K., Chavakis, E., Koh, J.Y., Boon, L., Hosur, K., Bornstein, S.R., Meuth, S.G., Hajishengallis, G., and Chavakis, T. Department of Biomedical Sciences, University of Ulsan College of Medicine, Seoul, Republic of Korea. Identification of developmental endothelial locus-1 (Del-1) as a homeostatic factor in the central nervous system limiting multiple sclerosis.

De Bock, L., Fraussen, J., and Somers, V. Biomedical Research Institute, Hasselt University, Belgium, and Transnationale Universiteit Limburg, School of Life Sciences, Diepenbeek, Belgium. Sperm-associated antigen 16 is a novel target of the humoral autoimmune response in MS.

Delalle, I. Boston University School of Medicine, Boston, MA, USA. Deregulated exosomal microRNA as a biomarker in bipolar disorder.

Delalle, I., and Tsai, L.H. Boston University School of Medicine, Boston, MA, USA, and Massachusetts Institute of Technology, Cambridge, MA, USA. Identification of circuits that benefit from cholinergic intervention in cognitive decline during Alzheimer Disease progression.

Deleersnijder, A., Van Rompuy A.S., Desender, L., Pottel, H., Buée, L., Debyser, Z., Baekelandt V., and Gerard, M. Laboratory of Neurobiology and Gene Therapy, K. U. Leuven, Leuven, Flanders, Belgium. Comparative analysis of different peptidyl-prolyl isomerases reveals FK506-binding protein 12 as the most potent enhancer of α-synuclein aggregation.

Demuyser, T., Bentea, E., Deneyer, L., Albertini, G., Van Liefferinge, G.J., Merckx, E., Massie, A., and Smolders, I. Center for Neurosciences, Vrije Universiteit Brussel, Brussels, Belgium. The cystine/glutamate antiporter as a potential novel target to modulate the stress response.

Dohler, F., Sepulveda-Falla, D., Krasemann, S., Altmeppen, H., Dobert, J., Zerr, I., Matschke, J., and Glatzel, M. Institute of Neuropathology, University Medical Center Hamburg-Eppendorf, Hamburg, Germany. Characterization of the interaction of the cellular Prion Protein (PrPC) with beta-sheet rich protein aggregates in Dementia.

Dzamko, N., Nichols, J., Holten, J., Van de Berg, W., Takao, M., Murayama, S., and Halliday, G. Neuroscience Research Australia, University of NSW, Sydney, Australia. Leucine-rich repeat kinase 2 expression in postmortem Parkinson's disease brain.

Eberhardt, E., Havlicek, S., Schmidt, D., Winner, B., and Lampert, A. Institute of Physiology and Pathophysiology, and Department of Anesthesiology, Friedrich-Alexander Universität Erlangen-Nürnberg, Erlangen, Germany. Pattern of functional TTX-resistant sodium channels reveals developmental stage of human iPS- and ES cell-derived nociceptors.

Ettle, B., and Winkler, J. Department of Molecular Neurology, University Hospital Erlangen, Erlangen, Germany. Role of oligodendrocyte progenitors in Multiple System Atrophy.

Fernandez-Ruiz, J., Rodriguez-Cueto, C., Hernández-Gálvez, M., and Gómez-Ruiz, M. Instituto Universitario de Investigación en Neuroquímica, Departamento de Bioquímica y Biología

Molecular, Facultad de Medicina, Universidad Complutense, Madrid, Spain. Evaluation of the endocannabinoid receptors and enzymes in the postmortem cerebellum of different SCA patients.

Francescatto, M., Rizzu, P., Sanchez, J.S., Heutink, P., and the Fantom 5 consortium. German Center for Neurodegenerative Diseases (DZNE), Tubingen, Germany. Profiling the promoterome of the human brain.

Fraussen, J., and Somers, V. Biomedical Research Institute, Hasselt University, Belgium, and Transnationale Universiteit Limburg, School of Life Sciences, Diepenbeek, Belgium. Antibody-independent effects of B cells in multiple sclerosis (MS).

Galter, D. Department of Neuroscience, Karolinska Institutet, Stockholm, Sweden. Expression and quantification of candidate genes of Alzheimer's disease in brain regions primarily affected by disease.

Gao, S.F., Jin, L., Ji, D.F., Wang, J., Cao, Y.J., Zhou, X.P., and Yu, R.T. Institute of Nervous system Diseases, Xuzhou Medical College, Xuzhou, P.R. China. The role of CAPON-mediated hypothalamic nNOS-NO system in the pathogenesis of depression.

Grosser, C., Neumann, L., Horsthemke, B., Zeschnigk, M., and Van de Nes, J. Institute of Human Genetics and Institute of Neuropathology, Faculty of Medicine, University Duisburg-Essen, Essen, Germany. Methylation analysis of SST and SSTR4 promotors in the neocortex of Alzheimer's disease patients.

Großmann, U., Zeisig, V., Brust, P., Deuther-Conrad, W., Patt, M., Schildan, A., Sabri, O., and Barthel, H. Department of Nuclear Medicine, University of Leipzig, Leipzig, Germany. Autoradiographic investigation of α7 nACh-receptor expressionin the Alzheimer brain.

Guzmán, E.A., Bouter, Y., Richard, B.C., Lannfelt, L., Ingelsson, M., Paetau, A., Verkkoniemi, A., Wirths, O., and Bayer, T.A. Department of Psychiatry, University Medicine Goettingen, Goettingen, Germany. Abundance of Aβ5-x like immunoreactivity in transgenic 5XFAD, APP/PS1KI and 3xTG mice, sporadic and familial Alzheimer´s Disease.

Houlden, H. 6th floor DNA laboratory, Institute of Neurology, London. Genetic Analysis of Inherited Leukodystrophies: Genotype-Phenotype Correlations in the CSF1R Gene.

Hu, H. Institute of Neuroscience Chinese Academy of Sciences, Shanghai, P.R. China. A high-throughput quantitative proteomics approach to identify altered synaptic protein content in an animal model of depression.

Janssens, K., Van den Haute, Ch., Baekelandt, V., Lucas, S., Van Horssen, J., Somers, V., Van Wijmeersch, B., Stinissen, P., Hendriks, J.J.A., Slaets, H., and Hellings, N. Biomedical Research Institute, Hasselt University, Belgium. Leukemia inhibitory factor tips the immune balance towards regulatory T cells in multiple sclerosis.

Jones, E., Ballard, C., and Doherty, P. Wolfson Centre for Age-Related Diseases, King's College London, London, United Kingdom. Functional Genetic Analysis: Mechanisms of Dementia in People with Down syndrome.

Kalmar, B., Greensmith, L., and Fisher, E. UCL Institute of Neurology, Queen Square, London, United Kingdom. Lower motor neuron pathology in Down's Syndrome.

Kaut, O., and Hurlemann, R. Dept. of Neurology and Dept. of Psychiatry, University of Bonn, Germany. Genome-wide DNA methylation analysis of depression in human braim sam-

ples.

Leoni, E., Zubiri, E., Ward, M., Pike, I., and Malaspina, A. Blizard Institute, QMUL and Proteome Sciences, London, UK. TMT-proteomic work-flow for tissue-fluid interface biomarkers discovery in amyotrophic lateral sclerosis.

Léveillard, T. et al. Department of Genetics, Institut de la Vision, University Pierre et Marie Curie, Paris, France. Implication of the Nucleoredoxin like gene 2 (NXNL2) in the pathophysiology of Alzheimer's disease.

Liebsch, F., Kulic, L., Konietzko, U., Scheltens, P., Hock, C., and Multhaup, G. Pharmacology and Therapeutics, McGill University, Montreal, Canada. Diagnostic Potential of Aβ-clearance Intermediates in Elderly Subjects at Risk for Alzheimer's Disease.

Lu, J., Zha, J., Balesar, R., Fronczek, R., Bao, A., and Swaab, D.F. Department of Neurobiology; Zhejiang Province Key Laboratory of Neurobiology, Zhejiang University School of Medicine, Hangzhou, P.R. China, and Netherlands Institute for Neuroscience, Amsterdam, The Netherlands. Orexin-A (hypocretin-1) changes in depression and suicide: gender differences.

Mailleux, J., Vanmierlo, Bogie, J., Wouters, E., Stinissen, P., Hendriks, J., and van Horssen, J. Hasselt University, Biomedical Research Institute, School of Life Sciences, Diepenbeek, Belgium. Liver X receptor activation in MS lesions.

Marcello, E., Musardo, S., Pelucchi, S., Mellone, M., Gardoni, F., and Di Luca, M. Department of Pharmacological and Biomolecular Sciences, Università degli Studi di Milano, Milan, Italy. Protein-protein interactions in Alzheimer's disease.

Mulder, J. et al. Science for life Laboratory, Department of Neuroscience, Karolinska Institute, Stockholm, Sweden. The next step in Biomarker discovery. Linking genes to cells and disease processes involved in AD and DLB.

Murray, C.E., Pressey, S.N., Heywood, W.E., Hargreaves, I.P., Neergheen, V., Wauters, S., Palkovits, M., Gelpi, E., Troakes, C., Gentleman, S.M., Mills, K., Holton, J.L., Revesz, T., and Gandhi, S. Institute of Neurology, University College London, Queen Square Brain Bank, United Kingdom. Investigating molecular mechanisms of progression of Parkinson's Disease in human brain.

Pandolfo, M., Donatello, S., and Chintawar, S. Department of Experimental Neurology, Université Libre de Bruxelles (ULB), Brussels, Belgium. Characterization of a gene of unknown function involved in a form of familial epilepsy.

Pannemans, K., Broux, B., Goris, A., Dubois, B., Broekmans, T., Van Wijmeersch, B., Geraghty, D., Stinissen, P., and Hellings, N. Biomedical Research Institute, Hasselt University, Belgium. HLA-E restricted CD8+ T cell subsets are phenotypically altered in multiple sclerosis patients.

Papanikolopoulou, K., and Skoulakis, E. Division of Neuroscience, Biomedical Sciences Research Centre "Alexander Fleming", Vari, Greece. Use of phosphorylated Tau as a biomarker.

Preisner, A., Albrecht, S., Hoffmann, E., Kemming, C., and Kuhlmann, T. Institute of Neuropathology, University Hospital Münster, Münster, Germany. Functional role for Wnt/β-Catenin for remyelination (failure) in MS.

Qi, X.R., Kamphuis, W., Wang, S., Wang, Q., Lucassen, P.J., Zhou, J.N., and Swaab, D.F. Netherlands Institute for Neuroscience, Amsterdam, The Netherlands, and CAS Key Laboratory of Brain Function and Diseases, School of Life Sciences, University of Science and Technology of China, Hefei, Anhui, PR China. Aberrant stress hormone receptor balance in the human prefrontal cortex and hypothalamic paraventricular nucleus of depressed patients.

Qi, X.R., Zhao, J., Liu, J., Fang, H., Swaab, D.F., and Zhou, J.N. CAS Key Laboratory of Brain Function and Diseases, School of Life Sciences, University of Science and Technology of China, Hefei, Anhui, PR China, and Netherlands Institute for Neuroscience, Amsterdam, The Netherlands. Abnormal retinoid and TrkB signaling in the prefrontal cortex in mood disorders.

Reinert, J., Martens, H., Huettenrauch, M., Lannfelt, L., Ingelsson, M., Paetau, A., Verkkoniemi, A., Bayer, T.A., and Wirths, O. Department of Psychiatry, University Medicine Goettingen, Goettingen, Germany. Aβ38 in the brains of patients with sporadic and familial Alzheimer's disease and transgenic mouse models.

Rizzu, P., Francescatto, M., Sanchez, J.S., Blauwendraat , C., and Heutink, P. German Center for Neurodegenerative Diseases (DZNE), Tubingen, Germany. Expression profiling of FTD patients with mutations in MAPT, GRN and c9orf72.

Sandebring, A., Gaunitz, S., Schedin-Weiss, S., and Tjernberg, L. Center for Alzheimer Research, Division of Neurogeriatrics, Karolinska Institutet, Huddinge, Sweden. A proteomic and glycomic study of regional differences in Alzheimer disease brain.

Schneider-Hohendorf, T., Rossaint, J., Mohan, H., Boning, D., Breuer, J., Kuhlmann, T., Gross, C., Flanagan, K., Sorokin, L., Vestweber, D., Zarbock, A., Schwab, N., and Wiendl, H. Department of Neurology, University of Münster, Münster, Germany. VLA-4 blockade promotes differential routes into human CNS involving PSGL-1 rolling of T cells and MCAM-adhesion of TH17 cells.

Sepulveda-Falla, D., Barrera-Ocampo A., Hagel C., Velazquez-Perez L., Rodriguez-Labrada R., Villegas A., Lopera .F, Glatzel M. Institute of Neuropathology, University Medical Center Hamburg-Eppendorf, Hamburg, Germany. Presenilin-1 E280A mutation leads to cerebellar dysfunction via altered Ca2+ homeostasis in early onset familial Alzheimer's disease patients.

Song, H. and Kim, K.T. Department of Life Sciences, Pohang University of Science and Technology, Pohang, Republic of Korea. CDK5-mediated phosphorylation of VRK3 in neuronal apoptosis.

Soreq, H. and Barbash, S. Dept. of Biological Chemistry, The Hebrew University of Jerusalem, Jerusalem, Israel. Classifying cell type-, cognition- and neuropathology-associated mRNA changes in Alzheimer's disease.

Svedberg, M., and Gulyás, B., Department of Clinical Neuroscience, Karolinska University Hospital, Karolinska Institutet, Stockholm, Sweden. Visualizing amyloid and huntingtin in post-mortem brain slices obtained from Alzheimer's disease and Huntington's disease patients with novel molecular imaging biomarkers and biomarker candidates.

Thathiah, A. and De Strooper, B. VIB Center for the Biology of Disease / KU Leuven, Leuven, Belgium. GPCR Dysfunction in Alzheimer's Disease.

Trutzel, A. et al. Division of Psychiatry Research, University of Zurich, Switzerland. Deficits in synaptic signalling and cytoskeleton organisation in early stages of Alzheimer disease (AD).

Trutzel, A. et al. Division of Psychiatry Research, University of Zurich, Switzerland. Role of NMDA receptor (NMDAR) signalling and Caspase-3 activity for dendritic spine loss in AD.

Tsamis, K.I., Mytilinaios, D., Njau, S.N., Baloyannis, S.J. Laboratory of Neuropathology, 1st Department of Neurology, Aristotle University, Thessaloniki, Greece. Synaptic alterations of human caudate nucleus in Alzheimer's disease.

Unger Lithner, C. and Darreh-Shori, T. Alzheimer Neurobiology Center, Karolinska Institutet, Stockholm, Sweden. The pathological mechanisms of β-amyloid in the brain of Alzheimer's Disease and controls.

Van den Oord, E. Center for Biomarker Research and Precision Medicine, Virginia Commonwealth University, Richmond VA, USA. Brain DNA methylation signatures of major depressive disorder.

Wennström, M. et al. Clinical Memory Research Unit, Dept. of Clinical Sciences, Lund University, Malmö, Sweden. Are levels of brain miRNA specifically linked to neuroinflammation and synaptic plasticity altered in relation to pathological mechanisms characteristic of AD?

Wennström, M. et al. Clinical Memory Research Unit, Dept. of Clinical Sciences, Lund University, Malmö, Sweden. Investigating possible alterations in the NG2 cell population brain tissue from Alzheimer's disease patients and healthy elders.

Wennström, M. et al. Clinical Memory Research Unit, Dept. of Clinical Sciences, Lund University, Malmö, Sweden. Using functional cell studies to characterize and map the sensitivity and response to pathology-associated agents of various post-mortem isolated primary human glial cell cultures.

Willem, M. Ludwig-Maximilians University Munich, Munich, Germany. Analysis of BACE1 expression and substrate processing in early and late stage Alzheimer's disease.

Wu, X., Bao, A., and Swaab, D.F. Department of Neurobiology; Key Laboratory of Medical Neurobiology of Ministry of Health of China; Zhejiang Province Key Laboratory of Neurobiology, Zhejiang Province Key Laboratory of Mental Disorder's Management; Zhejiang University School of Medicine, Hangzhou, China. Is there activity-dependent neurotransmitter respecification in the human hypothalamic suprachiasmatic nucleus between day and night and in depression?

Xilouri, M., Papagiannakis, N., and Stefanis, L. Center of Clinical Research, Experimental Surgery and Translational Research, Biomedical Research Foundation of the Academy of Athens, Athens, Greece. The role of Chaperone-Mediated Autophagy in the nervous system in health and disease.

Yoon, S.Y., and Kim, D.H. Department of Anatomy and Cell Biology, University of Ulsan College of Medicine, Seoul, Korea. Search for the key pathogenic molecules in Alzheimer's disease brain.

Zhou, J. Institute of Neuroscience, Shanghai Institutes for Biological Sciences, Chinese Academy of Sciences, Shanghai, P.R. China. Verification of αB-crystallin and Hapln2 expression in

brain of patients with Parkinson's disease (**abstract 1**) (**abstract 2**).

Zhu, Q.B., Unmehopa, U., Bossers, K., Verwer, R., Balesar, R., Zhao, J., Bao, A.M., and Swaab, D.F. Department of Neurobiology; Key Laboratory of Medical Neurobiology of Ministry of Health of China; Zhejiang Province Key Laboratory of Neurobiology, Zhejiang University School of Medicine, Hangzhou, P.R. China. MicroRNA-132 and Early growth response-1 in the Nucleus Basalis in Alzheimer.

Pharmaceutical companies

Asterand UK Acquisition Ltd
- Expression of therapeutic candidate genes in DRGs from control donors
- Correlative analysis of mRNA and protein expression in CNS tissues from MS donors
- Analysis of protein expression in normal and Alzheimer's Disease (AD) human brain
- Analysis of mRNA expression in CNS tissues from ALS donors
- Analysis of gene expression in specific hypothalamic nuclei isolated by Laser Capture Microdissection and analysed via quantitative rtPCR
- Screening a panel of alpha-SYN research antibodies, using FFPE sections from normal donors and those with Parkinson's Disease
- Purification of paired helical filaments from brain cortex samples from donors with early signs of Alzheimer's disease (Braak Stage 3)
- Examination of autoradiographic binding of a proprietary radioligand in frozen sections of different brain regions from normal donors and those with Parkinson's Disease

AstraZeneca Translational Science Centre at Karolinska Institutet, Stockholm, Sweden
- Establishment and validation of histopathological assays to quantify the levels of the ganglioside GM1 in human brain samples from the Netherland Brain Bank
- Identification and validation of transcripts and proteins in brain tissue derived from Alzheimer's patients with special emphasis on pharmacogenetics

Charles River Nederland BV
- Collaborative research program with CHDI Foundation (Cure Huntington's Disease Initiative)

DSM Nutritional Products AG
- A surrogate marker of brain aging: Relationship between telomere length in different brain areas and periphery during aging and disease and role of micronutrients

EMD Millipore
- Validation of a monoclonal antibody raised against Amyloid Beta nitro-tyrosine 10

GlaxoSmithKline
- Identification and validation of potential therapeutic targets for Multiple Sclerosis
- Identification of potential therapeutic targets for amyotrophic lateral sclerosis and Huntington's disease
- Identification of potential therapeutic targets for multiple sclerosis

Neurimmune Therapeutics AG

Characterization of therapeutic antibody candidates with respect to binding of pathological protein deposits, in Alzheimer's disease, Huntington's disease and amyotrophic lateral sclerosis.

Novartis Pharma AG

Investigation of IL-17 cytokine and its signaling pathway in MS

Neuroinflammation in AD

Autoradiography studies on orexin receptors in the human brain

Autoradiographic examination of extra- and intracellular markers in Huntington's disease, with special emphasis on visualization of huntingtin aggregates

Pfizer Ltd.

Assessment of ion channel gene expression in human spinal cord

UCB Biopharma SPRL

Evaluation of binding of UCB proprietary molecules to Alzheimer's patients brains for the identification of new therapeutic agents for the treatment of Tauopathies and Alzheimer's disease

Publications 2010-2014

This chapter lists the articles in which the NBB was involved and that were published between 2010 and 2014. The following two publications concern brain banking in general, and include individual NBB (former) staff members as authors:

Kliouеva, N. M., Rademaker, M. C., Dexter, D. T., Al-Sarraj, S., Seilhean, D., Streichenberger, N., … Huitinga, I. (2015[1]). BrainNet Europe's Code of Conduct for brain banking. Journal of Neural Transmission, 122(7), 937–940. http://doi.org/10.1007/s00702-014-1353-5

Samarasekera, N., Salman, R. A.-S., Huitinga, I., Kliouеva, N., McLean, C. A., Kretzschmar, H., … Ironside, J. W. (2013). Brain banking for neurological disorders. The Lancet Neurology, 12(11), 1096–1105.

Publications of research projects with the NBB as co-author

The other publications in this chapter concern articles that were realized through the use of NBB tissue. The Material Transfer Agreement of the NBB provides guidelines for acknowledgement of the NBB in the Materials and Methods section of publications of data derived from material obtained from NBB donors. However, in cases where the NBB's contribution to a research project is more substantial than usual and includes e.g. intellectual input into study design or specific analyses of tissue or donor data, we request (corporate) co-authorship for (an individual affiliated to) the Netherlands Brain Bank in case of a publication in which NBB material or data are used. For corporate authorship, the NBB can be added to the author list as "Netherlands Brain Bank" or "Netherlands Brain Bank for Psychiatry". A corporate author is preceded with a ; (not a ,). The affiliation of the Netherlands Brain Bank is: Netherlands Institute for Neuroscience, Meibergdreef 47, 1105 BA, Amsterdam, the Netherlands. The **NBB authorship guidelines**[2] describe this in more detail.

1 Online publication (ahead of print) in 2014

2 https://www.brainbank.nl/media/uploads/file/NBB authorship guidelines.pdf

Until 2014, the Netherlands Brain Bank was included as a corporate co-author in the following publications:

Vermunt, M. W., Reinink, P., Korving, J., de Bruijn, E., Creyghton, P. M., Basak, O., Geeven, G., Toonen, P.W., Lansu, N., Meunier, C., van Heesch, S.; Netherlands Brain Bank, Clevers, H., de Laat, W., Cuppen, E., & Creyghton, M.P. (2014). Large-Scale Identification of Coregulated Enhancer Networks in the Adult Human Brain. Cell Reports, 9(2), 767–779. http://doi.org/10.1016/j.celrep.2014.09.023

Dijkstra, A. A., Voorn, P., Berendse, H. W., Groenewegen, H. J.; Netherlands Brain Bank, Rozemuller, A. J., & Berg, W. D. (2014). Stage-dependent nigral neuronal loss in incidental Lewy body and Parkinson's disease. Movement Disorders, 29(10), 1244–1251.

Wong, T. H., Chiu, W. Z., Breedveld, G. J., Li, K. W., Verkerk, A. J. M. H., Hondius, D., Hukema, R.K., Seelaar, H., Frick, P., Severijnen, L.A., Lammers, G.J., Lebbink, J.H., van Duinen, S.G., Kamphorst, W., Rozemuller, A.J.; Netherlands Brain Bank, Bakker, E.B.; International Parkinsonism Genetics Network, Neumann, M., Willemsen, R., Bonifati, V., Smit, A.B., & van Swieten, J. (2014). PRKAR1B mutation associated with a new neurodegenerative disorder with unique pathology. Brain, 137(5), 1361–1373. http://doi.org/10.1093/brain/awu067

Nielsen, H. M., Ek, D., Avdic, U., Orbjörn, C., Hansson, O.; Netherlands Brain Bank, Veerhuis, R., Rozemuller, A.J., Brun, A., Minthon, L., & Wennström, M. (2013). NG2 cells, a new trail for Alzheimer's disease mechanisms? Acta Neuropathologica Communications, 1(1), 1–13. http://doi.org/10.1186/2051-5960-1-7

Full publication list

The following publications were realized through the use of NBB tissue. The NBB is acknowledged in these articles, but is not included as a co-author.

Aarsland, D., & Kurz, M. W. (2010). The epidemiology of dementia associated with Parkinson's disease. Brain Pathol, 20. http://doi.org/10.1111/j.1750-3639.2009.00369.x

Alberio, T., Bossi, A. M., Milli, A., Parma, E., Gariboldi, M. B., Tosi, G., … Fasano, M. (2010). Proteomic analysis of dopamine and α-synuclein interplay in a cellular model of Parkinson's disease pathogenesis. FEBS Journal, 277(23), 4909–4919.

Al-Izki, S., Pryce, G., Hankey, D. J. R., Lidster, K., von Kutzleben, S. M., Browne, L., … Baker, D. (2014). Lesional-targeting of neuroprotection to the inflammatory penumbra in experimental multiple sclerosis. Brain, 137(1), 92–108. http://doi.org/10.1093/brain/awt324

Alkemade, A., Friesema, E. C., Kalsbeek, A., Swaab, D. F., Visser, T. J., & Fliers, E. (2011). Expression of thyroid hormone transporters in the human hypothalamus. J.Clin.Endocrinol.Metab, 96(6), E967–E971. http://doi.org/10.1210/jc.2010-2750

Alkemade, A., Unmehopa, U. A., Hessel, E. V., Swaab, D. F., Kalsbeek, A., & Fliers, E. (2012). Suppressor of cytokine signaling 3 in the human hypothalamus. Peptides, 35(1), 139–142. http://doi.org/10.1016/j.peptides.2012.03.004

Alkemade, A., Yi, C. X., Pei, L., Harakalova, M., Swaab, D. F., la Fleur, S. E., … Kalsbeek, A. (2012). AgRP and NPY Expression in the Human Hypothalamic Infundibular Nucleus Correlate with Body Mass Index, Whereas Changes in alphaMSH Are Related to Type 2 Diabetes. J.Clin.Endocrinol.Metab, 97(6), E925–E933. http://doi.org/10.1210/jc.2011-3259

Alt, S. R., Turner, J. D., Klok, M. D., Meijer, O. C., Lakke, E. A., Derijk, R. H., & Muller, C. P. (2010). Differential expression of glucocorticoid receptor transcripts in major depressive disorder is not epigenetically programmed. Psychoneuroendocrinology, 35(4), 544–556.

Amadoro, G., Corsetti, V., Atlante, A., Florenzano, F., Capsoni, S., Bussani, R., … Calissano, P. (2012). Interaction between NH(2)-tau fragment and Abeta in Alzheimer's disease mitochondria contributes to the synaptic deterioration. Neurobiol.Aging, 33(4), 833.e1-e25. http://doi.org/10.1016/j.neurobiolaging.2011.08.001

Amadoro, G., Corsetti, V., Stringaro, A., Colone, M., D'Aguanno, S., Meli, G., … Calissano, P. (2010). A NH2 tau fragment targets neuronal mitochondria at AD synapses: possible implications for neurodegeneration. J.Alzheimers.Dis., 21(2), 445–470. http://doi.org/10.3233/JAD-2010-100120

Amor, S., Puentes, F., Baker, D., & van, der. (2010). Inflammation in neurodegenerative diseases. Immunology, 129(2), 154–169. http://doi.org/10.1111/j.1365-2567.2009.03225.x

Anand, U., Facer, P., Yiangou, Y., Sinisi, M., Fox, M., McCarthy, T., … Anand, P. (2013). Angiotensin II type 2 receptor (AT2R) localization and antagonist-mediated inhibition of capsaicin responses and neurite outgrowth in human and rat sensory neurons. European

Journal of Pain, 17(7), 1012–1026. http://doi.org/10.1002/j.1532-2149.2012.00269.x
Andersson, R., Gebhard, C., Miguel-Escalada, I., Hoof, I., Bornholdt, J., Boyd, M., … Sandelin, A. (2014). An atlas of active enhancers across human cell types and tissues. Nature, 507(7493), 455–461.
Andreyeva, A., Nieweg, K., Horstmann, K., Klapper, S., Muller-Schiffmann, A., Korth, C., & Gottmann, K. (2012). C-terminal fragment of N-cadherin accelerates synapse destabilization by amyloid-beta. Brain, 135(7), 2140–2154. http://doi.org/10.1093/brain/aws120
Armstrong, R. A., Kotzbauer, P. T., Perlmutter, J. S., Campbell, M. C., Hurth, K. M., Schmidt, R. E., & Cairns, N. J. (2014). A quantitative study of α-synuclein pathology in fifteen cases of dementia associated with Parkinson disease. J Neural Transm, 121. http://doi.org/10.1007/s00702-013-1084-z
Baillie, J. K., Barnett, M. W., Upton, K. R., Gerhardt, D. J., Richmond, T. A., De, S. F., … Faulkner, G. J. (2011). Somatic retrotransposition alters the genetic landscape of the human brain. Nature, 479(7374), 534–537. http://doi.org/10.1038/nature10531
Banigan, M. G., Kao, P. F., Kozubek, J. A., Winslow, A. R., Medina, J., Costa, J., … Delalle, I. (2013). Differential Expression of Exosomal microRNAs in Prefrontal Cortices of Schizophrenia and Bipolar Disorder Patients. PLoS ONE, 8(1), e48814. http://doi.org/10.1371/journal.pone.0048814
Bao, A.-M., & Swaab, D. F. (2014). The stress systems in depression: a postmortem study. European Journal of Psychotraumatology, 5, 10.3402/ejpt.v5.26521. http://doi.org/10.3402/ejpt.v5.26521
Bao, F., Wicklund, L., Lacor, P. N., Klein, W. L., Nordberg, A., & Marutle, A. (2012). Different beta-amyloid oligomer assemblies in Alzheimer brains correlate with age of disease onset and impaired cholinergic activity. Neurobiol.Aging, 33(4), 825.e1-e13. http://doi.org/10.1016/j.neurobiolaging.2011.05.003
Bauer, N. M., Moos, C., van, H. J., Witte, M., van, der, Altenhein, B., … White, R. (2012). Myelin basic protein synthesis is regulated by small non-coding RNA 715. EMBO Rep., 13(9), 827–834. http://doi.org/10.1038/embor.2012.97
Beecham, G. W., Hamilton, K., Naj, A. C., Martin, E. R., Huentelman, M., Myers, A. J., … the Alzheimer's Disease Genetics Consortium (ADGC). (2014). Genome-Wide Association Meta-analysis of Neuropathologic Features of Alzheimer's Disease and Related Dementias. PLoS Genet, 10(9), e1004606. http://doi.org/10.1371/journal.pgen.1004606
Béraud, D., & Maguire-Zeiss, K. A. (2012). Misfolded α-synuclein and toll-like receptors: therapeutic targets for Parkinson's disease. Parkinsonism Relat Disord, 18. http://doi.org/10.1016/S1353-8020(11)70008-6
Béraud, D., Twomey, M., Bloom, B., Mittereder, A., Ton, V., Neitzke, K., … Maguire-Zeiss, K. A. (2011). α-Synuclein alters toll-like receptor expression. Front Neurosci, 5. http://doi.org/10.3389/fnins.2011.00080
Berg, W. D. J., Hepp, D. H., Dijkstra, A. A., Rozemuller, J. A., Berendse, H. W., & Foncke, E. (2012). Patterns of alpha-synuclein pathology in incidental cases and clinical subtypes of Parkinson's disease. Parkinsonism Relat Disord, 18. http://doi.org/10.1016/S1353-8020(11)70011-6

Berson, A., Barbash, S., Shaltiel, G., Goll, Y., Hanin, G., Greenberg, D. S., … Soreq, H. (2012a). Cholinergic-associated loss of hnRNP-A/B in Alzheimer's disease impairs cortical splicing and cognitive function in mice. EMBO Molecular Medicine, 4(8), 730–742.

Berson, A., Barbash, S., Shaltiel, G., Goll, Y., Hanin, G., Greenberg, D. S., … Soreq, H. (2012b). Cholinergic-associated loss of hnRNP-A/B in Alzheimer's disease impairs cortical splicing and cognitive function in mice. EMBO Molecular Medicine, 4(8), 730–742. http://doi.org/10.1002/emmm.201100995

Beyer, N., Coulson, D. T., Heggarty, S., Ravid, R., Hellemans, J., Irvine, G. B., & Johnston, J. A. (2012). Zinc transporter mRNA levels in Alzheimer's disease postmortem brain. J.Alzheimers.Dis., 29(4), 863–873. http://doi.org/10.3233/JAD-2012-112105

Beyer, N., Coulson, D. T. R., Quinn, J. G., Brockbank, S., Hellemans, J., Irvine, G. B., … Johnston, J. A. (2014). mRNA levels of BACE1 and its interacting proteins, RTN3 and PPIL2, correlate in human post mortem brain tissue. Neuroscience, 274, 44–52. http://doi.org/10.1016/j.neuroscience.2014.05.020

Bien, J., Jefferson, T., Causevic, M., Jumpertz, T., Munter, L., Multhaup, G., … Pietrzik, C. U. (2012). The Metalloprotease Meprin beta Generates Amino Terminal-truncated Amyloid beta Peptide Species. J.Biol.Chem., 287(40), 33304–33313. http://doi.org/10.1074/jbc.M112.395608

Bisschop, P., Dekker, M., Osterthun, W., Kwakkel, J., Anink, J., Boelen, A., … Stewart, P. (2013). Expression of 11β-Hydroxysteroid Dehydrogenase Type 1 in the Human Hypothalamus. Journal of Neuroendocrinology, 25(5), 425–432.

Bobba, A., Amadoro, G., Piana, G., Calissano, P., & Atlante, A. (2014). Glycolytic enzyme upregulation and numbness of mitochondrial activity characterize the early phase of apoptosis in cerebellar granule cells. Apoptosis, 20(1), 10–28. http://doi.org/10.1007/s10495-014-1049-1

Bobba, A., Amadoro, G., Valenti, D., Corsetti, V., Lassandro, R., & Atlante, A. (2013). Mitochondrial respiratory chain Complexes I and IV are impaired by β-amyloid via direct interaction and through Complex I-dependent ROS production, respectively. Mitochondrion, 13(4), 298–311. http://doi.org/10.1016/j.mito.2013.03.008

Boche, D., Perry, V. H., & Nicoll, J. A. (2013). Review: activation patterns of microglia and their identification in the human brain. Neuropathol Appl Eurobiol, 39. http://doi.org/10.1111/nan.12011

Bogie, J. F., Jorissen, W., Mailleux, J., Nijland, P. G., Zelcer, N., Vanmierlo, T., … Hendriks, J. J. (2013). Myelin alters the inflammatory phenotype of macrophages by activating PPARs. Acta Neuropathologica Communications, 1(1), 1.

Booij, J. C., Baas, D. C., Beisekeeva, J., Gorgels, T. G., & Bergen, A. A. (2010). The dynamic nature of Bruch's membrane. Prog.Retin.Eye Res., 29(1), 1–18.

Borgers, A. J., Bisschop, P. H., Fliers, E., & Alkemade, A. (2011). Distribution of serotonin transporters in the human hypothalamus. In Endocrine Abstracts (Vol. 26 OC2.3). Rotterdam, The Netherlands.

Borgers, A. J., Fliers, E., Siljee, J. E., Swaab, D. F., Van Someren, E. J. W., Bisschop, P. H., & Alkemade, A. (2013). Arginine Vasopressin Immunoreactivity is Decreased in the Hypo-

thalamic Suprachiasmatic Nucleus of Subjects with Suprasellar Tumors. Brain Pathology, 23(4), 440–444. http://doi.org/10.1111/bpa.12016

Borgers, A. J., Koopman, K. E., Bisschop, P. H., Serlie, M. J., Swaab, D. F., Fliers, E., … Alkemade, A. (2014). Decreased serotonin transporter immunoreactivity in the human hypothalamic infundibular nucleus of overweight subjects. Frontiers in Neuroscience, 8, 106. http://doi.org/10.3389/fnins.2014.00106

Bosman, S., Geurts, J., Krudop, W., Kamphorst, W., Rozemuller, A., & Pijnenburg, Y. (2012). Clinicopathological correlations of the frontal lobe syndrome: Results of a large brain bank study. Alzheimer's Association International Conference 2012, 8(4, Supplement), P623. http://doi.org/10.1016/j.jalz.2012.05.1659

Bossers, K., Wirz, K. T., Meerhoff, G. F., Essing, A. H., van Dongen, J. W., Houba, P., … Swaab, D. F. (2010). Concerted changes in transcripts in the prefrontal cortex precede neuropathology in Alzheimer's disease. Brain, 133(12), 3699–3723. http://doi.org/10.1093/brain/awq258

Bossers, K., Ylstra, B., Brakenhoff, R. H., Smeets, S. J., Verhaagen, J., & van de Wiel, M. A. (2010). Intensity-based analysis of dual-color gene expression data as an alternative to ratio-based analysis to enhance reproducibility. BMC.Genomics, 11(1), 112.

Bozek, K., Wei, Y., Yan, Z., Liu, X., Xiong, J., Sugimoto, M., … Khaitovich, P. (2014). Exceptional Evolutionary Divergence of Human Muscle and Brain Metabolomes Parallels Human Cognitive and Physical Uniqueness. PLoS Biol, 12(5), e1001871. http://doi.org/10.1371/journal.pbio.1001871

Bradbury, M., Chen, C., Lautenbach, D., Christensen, K., Cupples, L., Whitehouse, P., … Green, R. (2011). False Reassurance Following Genetic Susceptibility Testing for Alzheimer's Disease: Evidence from the REVEAL Study. Alzheimer's & Dementia : The Journal of the Alzheimer's Association, 7(4), S179–S180.

Brana, C., Frossard, M. J., Pescini Gobert, R., Martinier, N., Boschert, U., & Seabrook, T. J. (2014). Immunohistochemical detection of sphingosine-1-phosphate receptor 1 and 5 in human multiple sclerosis lesions. Neuropathology and Applied Neurobiology, 40(5), 564–578. http://doi.org/10.1111/nan.12048

Brinkmalm, A., Brinkmalm, G., Honer, W. G., Frolich, L., Hausner, L., Minthon, L., … Blennow, K. (2014). SNAP-25 is a promising novel cerebrospinal fluid biomarker for synapse degeneration in Alzheimer's disease. Mol Neurodegener, 9, 53–1326.

Brinkmalm, A., Brinkmalm, G., Honer, W. G., Moreno, J. A., Jakobsson, J., Mallucci, G. R., … Öhrfelt, A. (2014). Targeting Synaptic Pathology with a Novel Affinity Mass Spectrometry Approach. Molecular & Cellular Proteomics, 13(10), 2584–2592. http://doi.org/10.1074/mcp.M114.040113

Brockschnieder, D., Schmitt-Willich, H., Heinrich, T., Varrone, A., Gulyas, B., Toth, M., … Dyrks, T. (2012). Preclinical Characterization of a Novel Class of 18F-Labeled PET Tracers for Amyloid-beta. J.Nucl.Med., 53(11), 1794–1801. http://doi.org/10.2967/jnumed.112.104810

Broux, B., Pannemans, K., Zhang, X., Markovic-Plese, S., Broekmans, T., Eijnde, B. O., … Hellings, N. (2012). CX(3)CR1 drives cytotoxic CD4(+)CD28(-) T cells into the brain

of multiple sclerosis patients. J.Autoimmun., 38(1), 10–19. http://doi.org/10.1016/j.jaut.2011.11.006

Broux, B., Van Wijmeersch, B., Stinissen, P., & HELLINGS, J. (2012). Interleukin-15 amplifies the pathogenic activity of CD4 (+) CD28-T cells in multiple sclerosis patients.

Bruch, J., Xu, H., De Andrade, A., & Höglinger, G. (2014). Mitochondrial complex 1 inhibition increases 4-repeat isoform tau by SRSF2 upregulation. PloS One, 9(11), e113070.

Bsibsi, M., Bajramovic, J. J., Vogt, M. H., van, D. E., Baghat, A., Persoon-Deen, C., … van Noort, J. M. (2010). The microtubule regulator stathmin is an endogenous protein agonist for TLR3. J.Immunol., 184(12), 6929–6937. http://doi.org/10.4049/jimmunol.0902419

Bsibsi, M., Holtman, I. R., Gerritsen, W. H., Eggen, B. J. L., Boddeke, E., Valk, P. van der, … Amor, S. (2013). Alpha-B-Crystallin Induces an Immune-Regulatory and Antiviral Microglial Response in Preactive Multiple Sclerosis Lesions. Journal of Neuropathology & Experimental Neurology, 72(10), 970–979. http://doi.org/10.1097/NEN.0b013e3182a776bf

Bsibsi, M., Peferoen, L. A., Holtman, I. R., Nacken, P. J., Gerritsen, W. H., Witte, M. E., … Amor, S. (2014). Demyelination during multiple sclerosis is associated with combined activation of microglia/macrophages by IFN-γ and alpha B-crystallin. Acta Neuropathologica, 128(2), 215–229.

Bugiani, M., Boor, I., van, K. B., Postma, N., Polder, E., van, B. C., … van der Knaap, M. S. (2011). Defective glial maturation in vanishing white matter disease. J.Neuropathol.Exp.Neurol., 70(1), 69–82. http://doi.org/10.1097/NEN.0b013e318203ae74

Bugiani, M., Postma, N., Polder, E., Dieleman, N., Scheffer, P. G., Sim, F. J., … Boor, I. (2013). Hyaluronan accumulation and arrested oligodendrocyte progenitor maturation in vanishing white matter disease. Brain, 136(1), 209–222.

Byström, S., Ayoglu, B., Häggmark, A., Mitsios, N., Hong, M.-G., Drobin, K., … Schwenk, J. M. (2014). Affinity Proteomic Profiling of Plasma, Cerebrospinal Fluid, and Brain Tissue within Multiple Sclerosis. Journal of Proteome Research, 13(11), 4607–4619. http://doi.org/10.1021/pr500609e

Caglayan, S., Bauerfeind, A., Schmidt, V., Carlo, A.-S., Prabakaran, T., Hubner, N., & Willnow, T. E. (2012). Identification of Alzheimer disease risk genotype that predicts efficiency of SORL1 expression in the brain. Archives of Neurology, 69(3), 373.

Caglayan, S., Schmidt, V., Carlo, A.-S., Bauerfeind, A., Huebner, N., & Willnow, T. (2011). Identification of Alzheimer's Disease Haplotype that Predicts Efficiency of SORL1/SORLA Expression in the Brain. Alzheimer's & Dementia, 7(4, Supplement), S180. http://doi.org/10.1016/j.jalz.2011.05.495

Cao, Y., Xiao, Y., Ravid, R., & Guan, Z. Z. (2010). Changed clathrin regulatory proteins in the brains of Alzheimer's disease patients and animal models. J.Alzheimers.Dis., 22(1), 329–342. http://doi.org/10.3233/JAD-2010-100162

Carlesimo, G. A., Piras, F., Assogna, F., Pontieri, F. E., Caltagirone, C., & Spalletta, G. (2012). Hippocampal abnormalities and memory deficits in Parkinson disease A multimodal imaging study. Neurology, 78. http://doi.org/10.1212/WNL.0b013e318259e1c5

Carrano, A., Hoozemans, J. J., van der Vies, S. M., Rozemuller, A. J., van Horssen, J., & de

Vries, H. E. (2011). Amyloid beta induces oxidative stress-mediated blood–brain barrier changes in capillary amyloid angiopathy. Antioxidants & Redox Signaling, 15(5), 1167–1178.

Carrano, A., Hoozemans, J. J., van der Vies, S. M., van, H. J., de Vries, H. E., & Rozemuller, A. J. (2012). Neuroinflammation and blood-brain barrier changes in capillary amyloid angiopathy. Neurodegener.Dis., 10(1–4), 329–331. http://doi.org/10.1159/000334916

Carrano, A., Snkhchyan, H., Kooij, G., van der Pol, S., van Horssen, J., Veerhuis, R., … de Vries, H. E. (2014). ATP-binding cassette transporters P-glycoprotein and breast cancer related protein are reduced in capillary cerebral amyloid angiopathy. Neurobiology of Aging, 35(3), 565–575.

Chen-Plotkin, A. S., Martinez-Lage, M., Sleiman, P., Hu, W., Greene, R., Wood, E. M., … Hatanpaa, K. J. (2011). Genetic and clinical features of progranulin-associated frontotemporal lobar degeneration. Archives of Neurology, 68(4), 488.

Cho, M.-H., Cho, K., Kang, H.-J., Jeon, E.-Y., Kim, H.-S., Kwon, H.-J., … Yoon, S.-Y. (2014). Autophagy in microglia degrades extracellular β-amyloid fibrils and regulates the NLRP3 inflammasome. Autophagy, 10(10), 1761–1775.

Choi, Y., Lee, K., Ryu, J., Kim, H. G., Jeong, A. Y., Woo, R.-S., … Kim, H.-S. (2014). Neuritin Attenuates Cognitive Function Impairments in Tg2576 Mouse Model of Alzheimer's Disease. PLoS ONE, 9(8), e104121. http://doi.org/10.1371/journal.pone.0104121

Christensen, D. Z., Schneider-Axmann, T., Lucassen, P. J., Bayer, T. A., & Wirths, O. (2010). Accumulation of intraneuronal Aβ correlates with ApoE4 genotype. Acta Neuropathologica, 119(5), 555–566.

Clarner, T., Diederichs, F., Berger, K., Denecke, B., Gan, L., van, der, … Kipp, M. (2012). Myelin debris regulates inflammatory responses in an experimental demyelination animal model and multiple sclerosis lesions. Glia, 60(10), 1468–1480. http://doi.org/10.1002/glia.22367

Codolo, G., Plotegher, N., Pozzobon, T., Brucale, M., Tessari, I., Bubacco, L., & Bernard, M. (2013). Triggering of inflammasome by aggregated A-synuclein, an inflammatory response in synucleinopathies. PLoS ONE, 8. http://doi.org/10.1371/journal.pone.0055375

Consortium, T. F. (2014). A promoter-level mammalian expression atlas. Nature, 507(7493), 462–470.

Corneveaux, J. J., Myers, A. J., Allen, A. N., Pruzin, J. J., Ramirez, M., Engel, A., … Huentelman, M. J. (2010). Association of CR1, CLU and PICALM with Alzheimer's disease in a cohort of clinically characterized and neuropathologically verified individuals. Hum. Mol.Genet., 19(16), 3295–3301. http://doi.org/10.1093/hmg/ddq221

Coulson, D. T., Beyer, N., Quinn, J. G., Brockbank, S., Hellemans, J., Irvine, G. B., … Johnston, J. A. (2010). BACE1 mRNA expression in Alzheimer's disease postmortem brain tissue. J.Alzheimers.Dis., 22(4), 1111–1122. http://doi.org/10.3233/JAD-2010-101254

Cuadrado, E., Jansen, M. H., Anink, J., De Filippis, L., Vescovi, A. L., Watts, C., … Kuijpers, T. W. (2013). Chronic exposure of astrocytes to interferon-α reveals molecular changes related to Aicardi–Goutières syndrome. Brain, 136(1), 245–258. http://doi.org/10.1093/brain/aws321

Cuello, A. C., Ferretti, M. T., & Iulita, M. F. (2012). Preplaque ('preclinical') abeta-induced inflammation and nerve growth factor deregulation in transgenic models of Alzheimer's disease-like amyloid pathology. Neurodegener.Dis., 10(1–4), 104–107. http://doi.org/10.1159/000333339

de Bock, L., Somers, K., Fraussen, J., Hendriks, J. J., van Horssen, J., Rouwette, M., … Espiño, M. (2014). Sperm-associated antigen 16 is a novel target of the humoral autoimmune response in multiple sclerosis. The Journal of Immunology, 193(5), 2147–2156.

de Hollander, G., Keuken, M. C., Bazin, P.-L., Weiss, M., Neumann, J., Reimann, K., … Schäfer, A. (2014). A gradual increase of iron toward the medial-inferior tip of the subthalamic nucleus. Human Brain Mapping, 35(9), 4440–4449. http://doi.org/10.1002/hbm.22485

de Jager, M., van der Wildt, B., Schul, E., Bol, J. G., van Duinen, S. G., Drukarch, B., & Wilhelmus, M. M. (2013). Tissue transglutaminase colocalizes with extracellular matrix proteins in cerebral amyloid angiopathy. Neurobiology of Aging, 34(4), 1159–1169.

De Kimpe, L., Bennis, A., Zwart, R., van Haastert, E. S., Hoozemans, J. J., & Scheper, W. (2012). Disturbed Ca2+ Homeostasis Increases Glutaminyl Cyclase Expression; Connecting Two Early Pathogenic Events in Alzheimer's Disease In Vitro. PloS One, 7(9), e44674.

De Kimpe, L., Van Haastert, E. S., Kaminari, A., Zwart, R., Rutjes, H., Hoozemans, J. J., & Scheper, W. (2012). Intracellular accumulation of aggregated pyroglutamate amyloid beta: convergence of aging and Aβ pathology at the lysosome. Age, 1–15.

Del Campo, M., Hoozemans, J. J., Dekkers, L.-L., Rozemuller, A. J., Korth, C., Müller-Schiffmann, A., … Veerhuis, R. (2014). BRI2-BRICHOS is increased in human amyloid plaques in early stages of Alzheimer's disease. Neurobiology of Aging, 35(7), 1596–1604.

Deleersnijder, A., Van Rompuy, A.-S., Desender, L., Pottel, H., Buée, L., Debyser, Z., … Gerard, M. (2011). Comparative analysis of different peptidyl-prolyl isomerases reveals FK506-binding protein 12 as the most potent enhancer of α-synuclein aggregation. Journal of Biological Chemistry, 286(30), 26687–26701.

Dennissen, F. J., Kholod, N., Hermes, D. J., Kemmerling, N., Steinbusch, H. W., Dantuma, N. P., & van Leeuwen, F. W. (2011). Mutant ubiquitin (UBB+1) associated with neurodegenerative disorders is hydrolyzed by ubiquitin C-terminal hydrolase L3 (UCH-L3). FEBS Lett., 585(16), 2568–2574. http://doi.org/10.1016/j.febslet.2011.06.037

Dennissen, F. J., Kholod, N., & van Leeuwen, F. W. (2012). The ubiquitin proteasome system in neurodegenerative diseases: culprit, accomplice or victim? Prog.Neurobiol., 96(2), 190–207. http://doi.org/10.1016/j.pneurobio.2012.01.003

Depienne, C., Bugiani, M., Dupuits, C., Galanaud, D., Touitou, V., Postma, N., … Darios, F. (2013). Brain white matter oedema due to ClC-2 chloride channel deficiency: an observational analytical study. The Lancet Neurology, 12(7), 659–668.

Diaz-Hernandez, M., Gomez-Ramos, A., Rubio, A., Gomez-Villafuertes, R., Naranjo, J. R., Miras-Portugal, M. T., & Avila, J. (2010). Tissue-nonspecific alkaline phosphatase promotes the neurotoxicity effect of extracellular tau. J.Biol.Chem., 285(42), 32539–32548. http://doi.org/10.1074/jbc.M110.145003

Dijkstra, A. A., Voorn, P., Berendse, H. W., Groenewegen, H. J., Rozemuller, A. J., & Berg, W. D. (2014). Stage-dependent nigral neuronal loss in incidental Lewy body and Parkinson's

disease. Movement Disorders, 29(10), 1244–1251.
Domercq, M., Alberdi, E., Sánchez-Gómez, M. V., Ariz, U., Pérez-Samartín, A., & Matute, C. (2011). Dual-specific phosphatase-6 (Dusp6) and ERK mediate AMPA receptor-induced oligodendrocyte death. Journal of Biological Chemistry, 286(13), 11825–11836.
Doorn, K. J., Drukarch, B., van Dam, A.-M., & Lucassen, P. J. (2014). Hippocampal proliferation is increased in presymptomatic Parkinson's disease and due to microglia. Neural Plasticity, 2014.
Doorn, K. J., Goudriaan, A., Blits-Huizinga, C., Bol, J. G. J. M., Rozemuller, A. J., Hoogland, P. V. J. M., … van Dam, A.-M. (2014). Increased Amoeboid Microglial Density in the Olfactory Bulb of Parkinson's and Alzheimer's Patients. Brain Pathology, 24(2), 152–165. http://doi.org/10.1111/bpa.12088
Doorn, K. J., Lucassen, P. J., Boddeke, H. W., Prins, M., Berendse, H. W., Drukarch, B., & Dam, A. M. (2012). Emerging roles of microglial activation and non-motor symptoms in Parkinson's disease. Prog Neurobiol, 98. http://doi.org/10.1016/j.pneurobio.2012.06.005
Doorn, K. J., Lucassen, P. J., Boddeke, H. W., Prins, M., Berendse, H. W., Drukarch, B., & van Dam, A.-M. (2012). Emerging roles of microglial activation and non-motor symptoms in Parkinson's disease. Progress in Neurobiology, 98(2), 222–238. http://doi.org/10.1016/j.pneurobio.2012.06.005
Doorn, K. J., Moors, T., Drukarch, B., van de Berg, W. D., Lucassen, P. J., & van Dam, A.-M. (2014). Microglial phenotypes and toll-like receptor 2 in the substantia nigra and hippocampus of incidental Lewy body disease cases and Parkinson's disease patients. Acta Neuropathologica Communications, 2(1), 1.
Doorn, R., Nijland, P., Dekker, N., Witte, M., Lopes-Pinheiro, M., het Hof, B., … Vries, H. (2012). Fingolimod attenuates ceramide-induced blood–brain barrier dysfunction in multiple sclerosis by targeting reactive astrocytes. Acta Neuropathologica, 124(3), 397–410. http://doi.org/10.1007/s00401-012-1014-4
Dopper, E. G., Seelaar, H., Chiu, W. Z., de Koning, I., van Minkelen, R., Baker, M. C., … van Swieten, J. C. (2011). Symmetrical corticobasal syndrome caused by a novel C. 314dup progranulin mutation. Journal of Molecular Neuroscience, 45(3), 354–358.
Doty, R. L., Hawkes, C. H., & Berendse, H. W. (2011). Olfactory Dysfunction in Parkinson's Disease and Related Disorders. In G. M. Halliday, R. A. Barker, & D. B. Rowe (Eds.), Non-dopamine Lesions in Parkinson's Disease.
Duan, X. H., Qiao, J. P., Yang, Y., Cui, M. C., Zhou, J. N., & Liu, B. L. (2010). Novel anilinophthalimide derivatives as potential probes for beta-amyloid plaque in the brain. Bioorg. Med.Chem., 18(3), 1337–1343.
Durrenberger, P. F., Fernando, S., Kashefi, S. N., Ferrer, I., Hauw, J. J., Seilhean, D., … Reynolds, R. (2010). Effects of antemortem and postmortem variables on human brain mRNA quality: a BrainNet Europe study. J.Neuropathol.Exp.Neurol., 69(1), 70–81. http://doi.org/10.1097/NEN.0b013e3181c7e32f
Echavarri, C., Burgmans, S., Uylings, H., Cuesta, M. J., Peralta, V., Kamphorst, W., … Verhey, F. R. (2012). Neuropsychiatric Symptoms in Alzheimer's Disease and Vascular Dementia. J.Alzheimers.Dis., 33(3), 715–721. http://doi.org/10.3233/JAD-2012-121003

Eisele, S., Krumbholz, M., Fischer, M. T., Mohan, H., Junker, A., Arzberger, T., … Meinl, E. (2012). Prospects of Transcript Profiling for mRNAs and MicroRNAs Using Formalin-Fixed and Paraffin-Embedded Dissected Autoptic Multiple Sclerosis Lesions. Brain Pathol., 22(5), 607–618. http://doi.org/10.1111/j.1750-3639.2012.00564.x

Escott-Price, V., Bellenguez, C., Wang, L.-S., Choi, S.-H., Harold, D., Jones, L., … Williams, J. (2014). Gene-wide analysis detects two new susceptibility genes for Alzheimer's disease. PloS One, 9(6), e94661. http://doi.org/10.1371/journal.pone.0094661

Fabricius, K., Jacobsen, J. S., & Pakkenberg, B. (2013). Effect of age on neocortical brain cells in 90+ year old human females-a cell counting study. Neurobiol.Aging, 34(1558–1497 (Electronic)), 91–99. http://doi.org/10.1016/j.neurobiolaging.2012.06.009

Farkas, S., Nagy, K., Jia, Z., Harkany, T., Palkovits, M., Donohou, S. R., … Gulyas, B. (2012). The decrease of dopamine D(2)/D(3) receptor densities in the putamen and nucleus caudatus goes parallel with maintained levels of CB(1) cannabinoid receptors in Parkinson's disease: a preliminary autoradiographic study with the selective dopamine D(2)/D(3) antagonist [(3)H]raclopride and the novel CB(1) inverse agonist [(1)(2)(5)I]SD7015. Brain Res.Bull., 87(6), 504–510. http://doi.org/10.1016/j.brainresbull.2012.02.012

Farkas, S., Nagy, K., Jia, Z., Hortobagyi, T., Varrone, A., Halldin, C., … Gulyas, B. (2012). Signal transduction pathway activity compensates dopamine D(2)/D(3) receptor density changes in Parkinson's disease: a preliminary comparative human brain receptor autoradiography study with [(3)H]raclopride and [(35)S]GTPgammaS. Brain Res., 1453(1872–6240 (Electronic)), 56–63. http://doi.org/10.1016/j.brainres.2012.03.014

Fernández-Nogales, M., Cabrera, J. R., Santos-Galindo, M., Hoozemans, J. J., Ferrer, I., Rozemuller, A. J., … Lucas, J. J. (2014). Huntington's disease is a four-repeat tauopathy with tau nuclear rods. Nature Medicine, 20(8), 881–885.

Forsberg, A., Juréus, A., Cselényi, Z., Eriksdotter, M., Freund-Levi, Y., Jeppsson, F., … Svensson, S. (2013). Low background and high contrast PET imaging of amyloid-β with [11C]AZD2995 and [11C]AZD2184 in Alzheimer's disease patients. European Journal of Nuclear Medicine and Molecular Imaging, 40(4), 580–593. http://doi.org/10.1007/s00259-012-2322-6

Friesema, E. C., Visser, T. J., Borgers, A. J., Kalsbeek, A., Swaab, D. F., Fliers, E., & Alkemade, A. (2012). Thyroid hormone transporters and deiodinases in the developing human hypothalamus. Eur.J.Endocrinol., 167(3), 379–386. http://doi.org/10.1530/EJE-12-0177

Fronczek, R., van, G. S., Frolich, M., Overeem, S., Roelandse, F. W., Lammers, G. J., & Swaab, D. F. (2011). Hypocretin (orexin) loss in Alzheimer's disease. Neurobiol.Aging, 33(8), 1642–1650. http://doi.org/10.1016/j.neurobiolaging.2011.03.014

Fu, X., Giavalisco, P., Liu, X., Catchpole, G., Fu, N., Ning, Z.-B., … Pääbo, S. (2011). Rapid metabolic evolution in human prefrontal cortex. Proceedings of the National Academy of Sciences, 108(15), 6181–6186.

Gaenslen, A., Swid, I., Liepelt Scarfone, I., Godau, J., & Berg, D. (2011). The patients' perception of prodromal symptoms before the initial diagnosis of Parkinson's disease. Mov Disord, 26. http://doi.org/10.1002/mds.23499

Gahete, M. D., Rubio, A., Cordoba-Chacon, J., Gracia-Navarro, F., Kineman, R. D., Avila, J.,

… Castano, J. P. (2010). Expression of the ghrelin and neurotensin systems is altered in the temporal lobe of Alzheimer's disease patients. J.Alzheimers.Dis., 22(3), 819–828. http://doi.org/10.3233/JAD-2010-100873

Gahete, M. D., Rubio, A., Duran-Prado, M., Avila, J., Luque, R. M., & Castano, J. P. (2010). Expression of Somatostatin, cortistatin, and their receptors, as well as dopamine receptors, but not of neprilysin, are reduced in the temporal lobe of Alzheimer's disease patients. J.Alzheimers.Dis., 20(2), 465–475. http://doi.org/10.3233/JAD-2010-1385

Gaisler-Salomon, I., Kravitz, E., Feiler, Y., Safran, M., Biegon, A., Amariglio, N., & Rechavi, G. (2014). Hippocampus-specific deficiency in RNA editing of GluA2 in Alzheimer's disease. Neurobiology of Aging, 35(8), 1785–1791. http://doi.org/10.1016/j.neurobiolaging.2014.02.018

Galama, J. M. D., Zoll, J. G., Lanke, K. H., de Jong, A. S., Melief, J., Huitinga, I., … van Kuppeveld, F. J. M. (2014). Saffold cardiovirus and multiple sclerosis: no evidence for an association. Annals of Clinical and Translational Neurology, 1(8), 618–621. http://doi.org/10.1002/acn3.82

Gan, C., Zhao, Z., Nan, D.-D., Yin, B., & Hu, J. (2014). Homoisoflavonoids as potential imaging agents for β-amyloid plaques in Alzheimer's disease. European Journal of Medicinal Chemistry, 76, 125–131. http://doi.org/10.1016/j.ejmech.2014.02.020

Gan, C., Zhou, L., Zhao, Z., & Wang, H. (2013). Benzothiazole Schiff-bases as potential imaging agents for β-amyloid plaques in Alzheimer's disease. Medicinal Chemistry Research, 22(9), 4069–4074. http://doi.org/10.1007/s00044-012-0416-0

Gao, S.-F., Klomp, A., Wu, J.-L., Swaab, D. F., & Bao, A.-M. (2013). Reduced GAD65/67 immunoreactivity in the hypothalamic paraventricular nucleus in depression: A postmortem study. Journal of Affective Disorders, 149(1), 422–425.

Gao, S.-F., Qi, X.-R., Zhao, J., Balesar, R., Bao, A.-M., & Swaab, D. F. (2013). Decreased NOS1 Expression in the Anterior Cingulate Cortex in Depression. Cerebral Cortex, 23(12), 2956–2964. http://doi.org/10.1093/cercor/bhs285

Garcia-Falgueras, A., Ligtenberg, L., Kruijver, F. P., & Swaab, D. F. (2011). Galanin neurons in the intermediate nucleus (InM) of the human hypothalamus in relation to sex, age, and gender identity. J.Comp Neurol., 519(15), 3061–3084. http://doi.org/10.1002/cne.22666

Garcia-Falgueras, A., & Swaab, D. F. (2010). Sexual hormones and the brain: an essential alliance for sexual identity and sexual orientation. Endocr.Dev., 17(1662–2979 (Electronic)), 22–35. http://doi.org/10.1159/000262525

Ge, J. F., Qiao, J. P., Qi, C. C., Wang, C. W., & Zhou, J. N. (2012). The binding of resveratrol to monomer and fibril amyloid beta. Neurochem.Int., (1872–9754 (Electronic)). http://doi.org/10.1016/j.neuint.2012.08.012

Geurts, J. J., Kooi, E. J., Witte, M. E., & van, der. (2010). Multiple sclerosis as an "inside-out" disease. Ann.Neurol., 68(5), 767–768. http://doi.org/10.1002/ana.22279

Ghazi-Visser, L., Laman, J. D., Nagel, S., van Meurs, M., van Riel, D., Tzankov, A., … Günthert, U. (2013). CD44 variant isoforms control experimental autoimmune encephalomyelitis by affecting the lifespan of the pathogenic T cells. The FASEB Journal, 27(9), 3683–3701. http://doi.org/10.1096/fj.13-228809

Giaccone, G., Arzberger, T., Alafuzoff, I., Al-Sarraj, S., Budka, H., Duyckaerts, C., … Kretzschmar, H. (2011). New lexicon and criteria for the diagnosis of Alzheimer's disease. Lancet Neurol., 10(4), 298–299. http://doi.org/10.1016/S1474-4422(11)70055-2

Giraldo, M., Lopera, F., Siniard, A. L., Corneveaux, J. J., Schrauwen, I., Carvajal, J., … Huentelman, M. J. (2013). Variants in triggering receptor expressed on myeloid cells 2 are associated with both behavioral variant frontotemporal lobar degeneration and Alzheimer's disease. Neurobiology of Aging, 34(8), 2077.e11-2077.e18. http://doi.org/10.1016/j.neurobiolaging.2013.02.016

Grinberg, L. T., Rueb, U., Alho, A. T. L., & Heinsen, H. (2010). Brainstem pathology and non-motor symptoms in PD. J Neurol Sci, 289. http://doi.org/10.1016/j.jns.2009.08.021

Grosser, C., Neumann, L., Horsthemke, B., Zeschnigk, M., & van de Nes, J. (2014). Methylation analysis of SST and SSTR4 promoters in the neocortex of Alzheimer's disease patients. Neuroscience Letters, 566, 241–246.

Gu, G. J., Lund, H., Wu, D., Blokzijl, A., Classon, C., von Euler, G., … Kamali-Moghaddam, M. (2013). Role of Individual MARK Isoforms in Phosphorylation of Tau at Ser262 in Alzheimer's Disease. NeuroMolecular Medicine, 15(3), 458–469. http://doi.org/10.1007/s12017-013-8232-3

Gu, G. J., Wu, D., Lund, H., Sunnemark, D., Kvist, A. J., Milner, R., … Landegren, U. (2013). Elevated MARK2-Dependent Phosphorylation of Tau in Alzheimer's Disease. Journal of Alzheimer's Disease, 33(3), 699–713.

Guerreiro, R., Kara, E., Le Ber, I., Bras, J., Rohrer, J. D., Taipa, R., … Mochel, F. (2013). Genetic analysis of inherited leukodystrophies: genotype-phenotype correlations in the CSF1R gene. JAMA Neurology, 70(7), 875–882.

Gulyas, B., Brockschnieder, D., Nag, S., Pavlova, E., Kasa, P., Beliczai, Z., … Halldin, C. (2010). The norepinephrine transporter (NET) radioligand (S,S)-[18F]FMeNER-D2 shows significant decreases in NET density in the human brain in Alzheimer's disease: a post-mortem autoradiographic study. Neurochem.Int., 56(6), 789–798. http://doi.org/10.1016/j.neuint.2010.03.001

Gulyás, B., Sovago, J., Gomez-Mancilla, B., Jia, Z., Szigeti, C., Gulya, K., … Halldin, C. (2014). Decrease of mGluR5 receptor density goes parallel with changes in enkephalin and substance P immunoreactivity in Huntington's disease: a preliminary investigation in the postmortem human brain. Brain Structure and Function, 220(5), 3043–3051. http://doi.org/10.1007/s00429-014-0812-y

Guzmán, E. A., Bouter, Y., Richard, B. C., Lannfelt, L., Ingelsson, M., Paetau, A., … Bayer, T. A. (2014). Abundance of Aβ5-x like immunoreactivity in transgenic 5XFAD, APP/PS1KI and 3xTG mice, sporadic and familial Alzheimer's disease. Molecular Neurodegeneration, 9(1), 1–11.

Ha, T. Y., Chang, K. A., Kim, J., Kim, H. S., Kim, S., Chong, Y. H., & Suh, Y. H. (2010). S100a9 knockdown decreases the memory impairment and the neuropathology in Tg2576 mice, AD animal model. PLoS.One., 5(1), e8840.

Halliday, A., Barker, R. A., & Rowe, D. B. (2011). Non-dopamine Lesions in Parkinson's Disease. New York: Oxford University Press, Inc.

Hanin, G., Shenhar-Tsarfaty, S., Yayon, N., Yau, Y. H., Bennett, E. R., Sklan, E. H., … Geifman-Shochat, S. (2014). Competing targets of microRNA-608 affect anxiety and hypertension. Human Molecular Genetics, 23(17), 4569–4580.

Hashimoto, T., & Nakai, M. (2011). Increased hippocampal quinone reductase 2 in Alzheimer's disease. Neurosci.Lett., 502(1), 10–12. http://doi.org/10.1016/j.neulet.2011.07.008

Heidbrink, C., Häusler, S. F., Buttmann, M., Ossadnik, M., Strik, H. M., Keller, A., … Krockenberger, M. (2010). Reduced cortisol levels in cerebrospinal fluid and differential distribution of 11β-hydroxysteroid dehydrogenases in multiple sclerosis: Implications for lesion pathogenesis. Brain, Behavior, and Immunity, 24(6), 975–984.

Hendrickx, D. A. E., Koning, N., Schuurman, K. G., van Strien, M. E., van Eden, C. G., Hamann, J., & Huitinga, I. (2013). Selective Upregulation of Scavenger Receptors in and Around Demyelinating Areas in Multiple Sclerosis. Journal of Neuropathology & Experimental Neurology, 72(2), 106–118.

Hendrickx, D. A., Schuurman, K. G., van Draanen, M., Hamann, J., & Huitinga, I. (2014). Enhanced uptake of multiple sclerosis-derived myelin by THP-1 macrophages and primary human microglia. Journal of Neuroinflammation, 11(1), 1–11.

Hendrickx, D., Schuurman, K., Eden, C. van, Hamann, J., & Ramaglia, V. (2011). Myelin phagocytosis in multiple sclerosis. Multiple Sclerosis Journal, 17(10S), S354–S354.

Hendrickx, D., Schuurman, K., Van Eden, C., Hamann, J., & Huitinga, I. (2011). MYELIN PHAGOCYTOSIS IN MULTIPLE SCLEROSIS. Glia, 59(S1), S60–S61.

Hepp, D. H., Ruiter, A., Galis, Y., Voorn, P., Rozemuller, A., Berendse, H., … van de Berg, W. (2013). Pedunculopontine cholinergic cell loss in hallucinating Parkinson disease patients but not in dementia with Lewy bodies patients. Journal of Neuropathology & Experimental Neurology, 72(12), 1162–1170.

Hessel, E. V. S., de Wit, M., Wolterink-Donselaar, I. G., Karst, H., de Graaff, E., van Lith, H. A., … de Graan, P. N. E. (2014). Identification of Srp9 as a febrile seizure susceptibility gene. Annals of Clinical and Translational Neurology, 1(4), 239–250. http://doi.org/10.1002/acn3.48

Hitti, F. L., & Siegelbaum, S. A. (2014). The hippocampal CA2 region is essential for social memory. Nature, 508. http://doi.org/10.1038/nature13028

Holton, P., Ryten, M., Nalls, M., Trabzuni, D., Weale, M. E., Hernandez, D., … Guerreiro, R. (2013). Initial Assessment of the Pathogenic Mechanisms of the Recently Identified Alzheimer Risk Loci. Annals of Human Genetics, 77(2), 85–105. http://doi.org/10.1111/ahg.12000

Hoogerhout, P., Kamphuis, W., Brugghe, H. F., Sluijs, J. A., Timmermans, H. A., Westdijk, J., … van den Dobbelsteen, G. P. (2011). A cyclic undecamer peptide mimics a turn in folded Alzheimer amyloid beta and elicits antibodies against oligomeric and fibrillar amyloid and plaques. PLoS.One., 6(4), e19110. http://doi.org/10.1371/journal.pone.0019110

Hoozemans, J. J., Rozemuller, A. J., van Haastert, E. S., Eikelenboom, P., & van Gool, W. A. (2011). Neuroinflammation in Alzheimer's disease wanes with age. J.Neuroinflammation., 8(1742–2094 (Electronic)), 171. http://doi.org/10.1186/1742-2094-8-171

Hoozemans, J. J., van Haastert, E. S., Mulder, S. D., Nielsen, H. M., Veerhuis, R., Ruijtenbeek,

R., … van der Vies, S. M. (2014). Increased IRAK-4 Kinase Activity in Alzheimer s Disease; IRAK-1/4 Inhibitor I Prevents Pro-inflammatory Cytokine Secretion but not the Uptake of Amyloid Beta by Primary Human Glia. Journal of Clinical & Cellular Immunology, 2014.

Hortobágyi, T., Troakes, C., Nishimura, A. L., Vance, C., van Swieten, J. C., Seelaar, H., … Shaw, C. E. (2011). Optineurin inclusions occur in a minority of TDP-43 positive ALS and FTLD-TDP cases and are rarely observed in other neurodegenerative disorders. Acta Neuropathologica, 121(4), 519–527.

Hu, H. Y., Guo, S., Xi, J., Yan, Z., Fu, N., Zhang, X., … Zhao, M. (2011). MicroRNA expression and regulation in human, chimpanzee, and macaque brains. PLoS Genetics, 7(10), e1002327.

Hu, H. Y., He, L., Fominykh, K., Yan, Z., Guo, S., Zhang, X., … Khaitovich, P. (2012). Evolution of the human-specific microRNA miR-941. Nat Commun, 3, 1145. http://doi.org/10.1038/ncomms2146

Hu, H. Y., He, L., & Khaitovich, P. (2014). Deep sequencing reveals a novel class of bidirectional promoters associated with neuronal genes. BMC Genomics, 15(1), 1–16. http://doi.org/10.1186/1471-2164-15-457

Huitinga, I., Michailidou, I., van Strien, M., van Eden, C., Fluiter, K., Neal, J., … Ramaglia, V. (2014). Identification of a key role for complement in neurodegeneration in multiple sclerosis (Vol. 20, pp. 316–317). Presented at the MULTIPLE SCLEROSIS JOURNAL, SAGE PUBLICATIONS LTD 1 OLIVERS YARD, 55 CITY ROAD, LONDON EC1Y 1SP, ENGLAND.

Huizinga, R., Kreft, K., Onderwater, S., Boonstra, J., Brands, R., Hintzen, R., & Laman, J. (2012). Endotoxin- and ATP-neutralizing activity of alkaline phosphatase as a strategy to limit neuroinflammation. Journal of Neuroinflammation, 9(1), 266.

Huizinga, R., van der Star, B. J., Kipp, M., Jong, R., Gerritsen, W., Clarner, T., … Amor, S. (2012). Phagocytosis of neuronal debris by microglia is associated with neuronal damage in multiple sclerosis. Glia, 60(3), 422–431. http://doi.org/10.1002/glia.22276

Ikemoto, K. (2012a). Are D-Neurons and Trace Amine-Associated Receptor, Type 1 Involved in Mesolimbic Dopamine Hyperactivity of Schizophrenia? Medicinal Chemistry.

Ikemoto, K. (2012). Why D-neuron? Direction from Psychiatric Research. J Neurol Neurophysiol, 10(S11), 2155–9562. http://doi.org/10.4172/2155-9562.S11-002

Ikemoto, K. (2012b). Why D-neuron? Importance in schizophrenia research. Open Journal of Psychiatry, 2(4), 393–398.

Ishunina, T. A., & Swaab, D. F. (2012). Decreased alternative splicing of estrogen receptor-α mRNA in the Alzheimer's disease brain. Neurobiology of Aging, 33(2), 286–296.e3. http://doi.org/10.1016/j.neurobiolaging.2010.03.010

Iulita, M. F., & Cuello, A. C. (2014). Nerve growth factor metabolic dysfunction in Alzheimer's disease and Down syndrome. Trends in Pharmacological Sciences, 35(7), 338–348. http://doi.org/10.1016/j.tips.2014.04.010

Iyer, A. M., van Scheppingen, J., Milenkovic, I., Anink, J. J., Adle-Biassette, H., Kovacs, G. G., & Aronica, E. (2014). mTOR Hyperactivation in down syndrome hippocampus ap-

pears early during development. Journal of Neuropathology & Experimental Neurology, 73(7), 671–683.

Iyer, A., van Scheppingen, J., Anink, J., Milenkovic, I., Kovács, G. G., & Aronica, E. (2013). Developmental patterns of DR6 in normal human hippocampus and in Down syndrome. J. Neurodev. Disord, 5(10).

Iyer, A., van Scheppingen, J., Milenkovic, I., Anink, J., Lim, D., Genazzani, A., … Aronica, E. (2014). Metabotropic Glutamate Receptor 5 in Down's Syndrome Hippocampus During Development: Increased Expression in Astrocytes. Current Alzheimer Research, 11(7), 694–705.

Jansen, C., Parchi, P., Capellari, S., Strammiello, R., Dopper, E. G., van Swieten, J. C., … Rozemuller, A. J. (2011). A second case of Gerstmann-Straussler-Scheinker disease linked to the G131V mutation in the prion protein gene in a Dutch patient. J.Neuropathol.Exp. Neurol., 70(8), 698–702. http://doi.org/10.1097/NEN.0b013e3182270c54

Jansen, C., Parchi, P., Capellari, S., Vermeij, A. J., Corrado, P., Baas, F., … Rozemuller, A. J. (2010). Prion protein amyloidosis with divergent phenotype associated with two novel nonsense mutations in PRNP. Acta Neuropathol., 119(2), 189–197.

Janssen, S. F., Gorgels, T. G., Ten Brink, J. B., Jansonius, N. M., & Bergen, A. A. (2014). Gene expression-based comparison of the human secretory neuroepithelia of the brain choroid plexus and the ocular ciliary body: potential implications for glaucoma. Fluids Barriers CNS, 11(2).

Janssen, S. F., van der Spek, S. J., Jacoline, B., Essing, A. H., Gorgels, T. G., van der Spek, P. J., … Bergen, A. A. (2013). Gene expression and functional annotation of the human and mouse choroid plexus epithelium. PloS One, 8(12), e83345.

Jefferson, T., Causevic, M., auf dem, K. U., Schilling, O., Isbert, S., Geyer, R., … Becker-Pauly, C. (2011). Metalloprotease meprin beta generates nontoxic N-terminal amyloid precursor protein fragments in vivo. J.Biol.Chem., 286(31), 27741–27750. http://doi.org/10.1074/jbc.M111.252718

Jones, E. L., Mok, K., Hanney, M., Harold, D., Sims, R., Williams, J., & Ballard, C. (2013). Evidence that PICALM affects age at onset of Alzheimer's dementia in Down syndrome. Neurobiology of Aging, 34(10), 2441-e1.

Jun, G., Vardarajan, B. N., Buros, J., Yu, C.-E., Hawk, M. V., Dombroski, B. A., … Larson, E. B. (2012). Comprehensive search for Alzheimer disease susceptibility loci in the APOE region. Archives of Neurology, 69(10), 1270.

Juréus, A., Swahn, B.-M., Sandell, J., Jeppsson, F., Johnson, A. E., Johnström, P., … Svensson, S. P. S. (2010). Characterization of AZD4694, a novel fluorinated Aβ plaque neuroimaging PET radioligand. Journal of Neurochemistry, 114(3), 784–794. http://doi.org/10.1111/j.1471-4159.2010.06812.x

Kalsbeek, A., Fliers, E., Hofman, M. A., Swaab, D. F., & Buijs, R. M. (2010). Vasopressin and the output of the hypothalamic biological clock. J.Neuroendocrinol., 22(5), 362–372.

Kamphuis, W., Middeldorp, J., Kooijman, L., Sluijs, J. A., Kooi, E.-J., Moeton, M., … Hol, E. M. (2014). Glial fibrillary acidic protein isoform expression in plaque related astrogliosis in Alzheimer's disease. Neurobiology of Aging, 35(3), 492–510.

Kan, A. A., de Jager, W., de Wit, M., Heijnen, C., van Zuiden, M., Ferrier, C., … van Nieuwenhuizen, O. (2012a). Protein expression profiling of inflammatory mediators in human temporal lobe epilepsy reveals co-activation of multiple chemokines and cytokines. Journal of Neuroinflammation, 9(1), 1–22.

Kan, A. A., de Jager, W., de Wit, M., Heijnen, C., van Zuiden, M., Ferrier, C., … van Nieuwenhuizen, O. (2012b). Protein expression profiling of inflammatory mediators in human temporal lobe epilepsy reveals co-activation of multiple chemokines and cytokines. J Neuroinflammation, 9, 207.

Kan, A. A., van Erp, S., Derijck, A. A., de Wit, M., Hessel, E. V., O'Duibhir, E., … de Graan, P. N. (2012a). Genome-wide microRNA profiling of human temporal lobe epilepsy identifies modulators of the immune response. Cellular and Molecular Life Sciences, 69(18), 3127–3145.

Kan, A. A., van Erp, S., Derijck, A. A., de Wit, M., Hessel, E. V., O'Duibhir, E., … de Graan, P. N. (2012b). Genome-wide microRNA profiling of human temporal lobe epilepsy identifies modulators of the immune response. Cellular and Molecular Life Sciences, 69(18), 3127–3145.

Karlsen, A. S., Korbo, S., Uylings, H. B. M., & Pakkenberg, B. (2014). A stereological study of the mediodorsal thalamic nucleus in Down syndrome. Neuroscience, 279, 253–259. http://doi.org/10.1016/j.neuroscience.2014.08.046

Karlsen, A. S., & Pakkenberg, B. (2011). Total numbers of neurons and glial cells in cortex and basal ganglia of aged brains with Down syndrome--a stereological study. Cereb.Cortex, 21(11), 2519–2524. http://doi.org/10.1093/cercor/bhr033

Kim, C., Ho, D. H., Suk, J. E., You, S., Michael, S., Kang, J., … Lee, H. J. (2013). Neuron-released oligomeric a-synuclein is an endogenous agonist of TLR2 for paracrine activation of microglia. Nat Commun, 4. http://doi.org/10.1038/ncomms2534

Kipp, M., Gingele, S., Pott, F., Clarner, T., van der Valk, P., Denecke, B., … Beyer, C. (2011). BLBP-expression in astrocytes during experimental demyelination and in human multiple sclerosis lesions. Brain, Behavior, and Immunity, 25(8), 1554–1568. http://doi.org/10.1016/j.bbi.2011.05.003

Klok, M. D., Alt, S. R., Irurzun Lafitte, A. J., Turner, J. D., Lakke, E. A., Huitinga, I., … Derijk, R. H. (2011). Decreased expression of mineralocorticoid receptor mRNA and its splice variants in postmortem brain regions of patients with major depressive disorder. J.Psychiatr.Res., 45(7), 871–878. http://doi.org/10.1016/j.jpsychires.2010.12.002

Koning, N., van, E. M., Pouwels, W., Brouwer, M. S., Voehringer, D., Huitinga, I., … Hamann, J. (2010). Expression of the inhibitory CD200 receptor is associated with alternative macrophage activation. J.Innate.Immun., 2(2), 195–200. http://doi.org/10.1159/000252803

Kontsekova, E., Zilka, N., Kovacech, B., Novak, P., & Novak, M. (2014). First-in-man tau vaccine targeting structural determinants essential for pathological tau-tau interaction reduces tau oligomerisation and neurofibrillary degeneration in an Alzheimer's disease model. Alzheimers Res Ther, 6(4), 44.

Kontsekova, E., Zilka, N., Kovacech, B., Skrabana, R., & Novak, M. (2014). Identification of structural determinants on tau protein essential for its pathological function: novel thera-

peutic target for tau immunotherapy in Alzheimer's disease. Alzheimers Res Ther, 6, 45.
Kooi, E. J., Strijbis, E. M., van, der, & Geurts, J. J. (2012). Heterogeneity of cortical lesions in multiple sclerosis: Clinical and pathologic implications. Neurology, 79(13), 1369–1376. http://doi.org/10.1212/WNL.0b013e31826c1b1c
Kooij, G., Kopplin, K., Blasig, R., Stuiver, M., Koning, N., Goverse, G., … Drexhage, J. A. (2014). Disturbed function of the blood–cerebrospinal fluid barrier aggravates neuroinflammation. Acta Neuropathologica, 128(2), 267–277.
Kooij, G., Kroon, J., Paul, D., Reijerkerk, A., Geerts, D., van der Pol, S. M., … Hekking, L. H. (2014). P-glycoprotein regulates trafficking of CD8+ T cells to the brain parenchyma. Acta Neuropathologica, 127(5), 699–711.
Kooij, G., Mizee, M. R., van Horssen, J., Reijerkerk, A., Witte, M. E., Drexhage, J. A., … Scheper, R. (2011). Adenosine triphosphate-binding cassette transporters mediate chemokine (CC motif) ligand 2 secretion from reactive astrocytes: relevance to multiple sclerosis pathogenesis. Brain, 134(2), 555–570.
Kooij, G., van Horssen, J., de Lange, E., Reijerkerk, A., van der Pol, S., van Het Hof, B., … Scheffer, G. (2010). T lymphocytes impair P-glycoprotein function during neuroinflammation. Journal of Autoimmunity, 34(4), 416–425.
Kovacs, G. G., Rozemuller, A. J., van Swieten, J. C., Gelpi, E., Majtenyi, K., Al-Sarraj, S., … Budka, H. (2013). Neuropathology of the hippocampus in FTLD-Tau with Pick bodies: A study of the BrainNet Europe Consortium. Neuropathol.Appl.Neurobiol., 39(2). http://doi.org/10.1111/j.1365-2990.2012.01272.x
Kravitz, E., Gaisler-Salomon, I., & Biegon, A. (2013). Hippocampal Glutamate NMDA Receptor Loss Tracks Progression in Alzheimer's Disease: Quantitative Autoradiography in Postmortem Human Brain. PLoS ONE, 8(11), e81244. http://doi.org/10.1371/journal.pone.0081244
Kreft, K. L., van Meurs, M., Wierenga-Wolf, A. F., Melief, M.-J., van Strien, M. E., Hol, E. M., … Hintzen, R. Q. (2014). Abundant kif21b is associated with accelerated progression in neurodegenerative diseases. Acta Neuropathologica Communications, 2(1), 1–13. http://doi.org/10.1186/s40478-014-0144-4
Kreft, K. L., Verbraak, E., Wierenga-Wolf, A. F., van, M. M., Oostra, B. A., Laman, J. D., & Hintzen, R. Q. (2012). The IL-7Ralpha pathway is quantitatively and functionally altered in CD8 T cells in multiple sclerosis. J.Immunol., 188(4), 1874–1883. http://doi.org/10.4049/jimmunol.1102559
Lana, E. (2013). Alzheimer's and Parkinson's Diseases: Mechanisms, Clinical Strategies, and Promising Treatments of Neurodegenerative Diseases 11th International Conference AD/PDTM Florence, Italy, March 6-10, 2013: Abstracts. Neurodegenerative Diseases, 11(suppl 1)(Suppl. 1), 1–1.
Lana, E., Chen, X., Jung, S., Wiehager, B., Ankarcrona, M., Darreh-Shori, T., & Lithner, C. U. (2014). EPIGENETIC MODIFICATIONS IN ALZHEIMER'S DISEASE: EFFECTS OF BETA-AMYLOID EXPOSURE. Alzheimer's Association International Conference 2014Alzheimer's Association International Conference 2014, 10(4, Supplement), P215. http://doi.org/10.1016/j.jalz.2014.04.287

Lau, P., Bossers, K., Salta, E., Frigerio, C. S., Barbash, S., Rothman, R., … Papadopoulou, A. S. (2013). Alteration of the microRNA network during the progression of Alzheimer's disease. EMBO Molecular Medicine, 5(10), 1613–1634.

Lehnardt, S. (2010). Innate immunity and neuroinflammation in the CNS: the role of microglia in toll-like receptor-mediated neuronal injury. Glia, 58.

Lewis, S. (2012). Neurodegenerative disorders: Microglia get ready, set... Nature Reviews Neuroscience, 13(3), 154–155.

Li, Z., Cui, M., Dai, J., Wang, X., Yu, P., Yang, Y., … Liu, B. (2013). Novel Cyclopentadienyl Tricarbonyl Complexes of 99mTc Mimicking Chalcone as Potential Single-Photon Emission Computed Tomography Imaging Probes for β-Amyloid Plaques in Brain. Journal of Medicinal Chemistry, 56(2), 471–482. http://doi.org/10.1021/jm3014184

Liao, C. R., Rak, M., Lund, J., Unger, M., Platt, E., Albensi, B. C., … Gough, K. M. (2013). Synchrotron FTIR reveals lipid around and within amyloid plaques in transgenic mice and Alzheimer's disease brain. Analyst, 138(14), 3991–3997. http://doi.org/10.1039/C3AN00295K

Lilja, A. M., Porras, O., Storelli, E., Nordberg, A., & Marutle, A. (2011). Functional interactions of fibrillar and oligomeric amyloid-beta with alpha7 nicotinic receptors in Alzheimer's disease. J.Alzheimers.Dis., 23(2), 335–347. http://doi.org/10.3233/JAD-2010-101242

Lim, Y., Kehm, V. M., Lee, E. B., Soper, J. H., Li, C., Trojanowski, J. Q., & Lee, V. M. Y. (2011). Alpha-syn suppression reverses synaptic and memory defects in a mouse model of dementia with Lewy bodies. J Neurosci, 31. http://doi.org/10.1523/JNEUROSCI.0618-11.2011

Liu, C.-Q., Shan, L., Balesar, R., Luchetti, S., Van Heerikhuize, J. J., Luo, J.-H., … Bao, A.-M. (2010). A quantitative in situ hybridization protocol for formalin-fixed paraffin-embedded archival post-mortem human brain tissue. Methods, 52(4), 359–366.

Liu, X., Somel, M., Tang, L., Yan, Z., Jiang, X., Guo, S., … Zhang, Y. (2012). Extension of cortical synaptic development distinguishes humans from chimpanzees and macaques. Genome Research, 22(4), 611–622.

Long-Smith, C. M., Manning, S., McClean, P. L., Coakley, M. F., O'Halloran, D. J., Holscher, C., & O'Neill, C. (2013). The Diabetes Drug Liraglutide Ameliorates Aberrant Insulin Receptor Localisation and Signalling in Parallel with Decreasing Both Amyloid-β Plaque and Glial Pathology in a Mouse Model of Alzheimer's Disease. Neuromolecular Medicine, 15(1), 102–114.

Lucassen, P. J. (2011). The origin and development of plaques and phosphorylated tau are associated with axonopathy in Alzheimer's disease. Neuroscience Bulletin, 27(5), 287–299.

Lucassen, P. J., Stumpel, M. W., Wang, Q., & Aronica, E. (2010). Decreased numbers of progenitor cells but no response to antidepressant drugs in the hippocampus of elderly depressed patients. Drugs and Stem Cells in Brain Repair, 58(6), 940–949. http://doi.org/10.1016/j.neuropharm.2010.01.012

Luchetti, S., Bossers, K., Frajese, G. V., & Swaab, D. F. (2010). Neurosteroid biosynthetic pathway changes in substantia nigra and caudate nucleus in Parkinson's disease. Brain Pathol., 20(5), 945–951. http://doi.org/10.1111/j.1750-3639.2010.00396.x

Luchetti, S., Huitinga, I., & Swaab, D. F. (2011). Neurosteroid and GABA-A receptor alterations in Alzheimer's disease, Parkinson's disease and multiple sclerosis. Neuroscience, 191(1873–7544 (Electronic)), 6–21. http://doi.org/10.1016/j.neuroscience.2011.04.010

Luchetti, S., van Eden, C. G., Schuurman, K., van Strien, M. E., Swaab, D. F., & Huitinga, I. (2014). Gender differences in multiple sclerosis: induction of estrogen signaling in male and progesterone signaling in female lesions. Journal of Neuropathology & Experimental Neurology, 73(2), 123–135.

Lund, H., Cowburn, R. F., Gustafsson, E., Strömberg, K., Svensson, A., Dahllund, L., … Sunnemark, D. (2013). Tau-Tubulin Kinase 1 Expression, Phosphorylation and Co-Localization with Phospho-Ser422 Tau in the Alzheimer's Disease Brain. Brain Pathology, 23(4), 378–389. http://doi.org/10.1111/bpa.12001

Lund, H., Gustafsson, E., Svensson, A., Nilsson, M., Berg, M., Sunnemark, D., & von Euler, G. (2014). MARK4 and MARK3 associate with early tau phosphorylation in Alzheimer's disease granulovacuolar degeneration bodies. Acta Neuropathologica Communications, 2(1), 1–15. http://doi.org/10.1186/2051-5960-2-22

Lutz, M. W., Crenshaw, D. G., Saunders, A. M., & Roses, A. D. (2010). Genetic variation at a single locus and age of onset for Alzheimer's disease. Alzheimers.Dement., 6(2), 125–131. http://doi.org/10.1016/j.jalz.2010.01.011

M. van Noort, J., Baker, D., & Amor, S. (2012). Mechanisms in the Development of Multiple Sclerosis Lesions: Reconciling Autoimmune and Neurodegenerative Factors. CNS & Neurological Disorders - Drug Targets, 11(5), 556–569. http://doi.org/10.2174/187152712801661293

Mackenzie, I. R., Neumann, M., Bigio, E. H., Cairns, N. J., Alafuzoff, I., Kril, J., … Mann, D. M. (2010). Nomenclature and nosology for neuropathologic subtypes of frontotemporal lobar degeneration: an update. Acta Neuropathol., 119(1), 1–4.

Magnusson, K., Sehlin, D., Syvänen, S., Svedberg, M. M., Philipson, O., Söderberg, L., … Tolmachev, V. (2013). Specific Uptake of an Amyloid-β Protofibril-Binding Antibody-Tracer in AβPP Transgenic Mouse Brain. Journal of Alzheimer's Disease, 37(1), 29–40.

Makris, N., Swaab, D. F., van der Kouwe, A., Abbs, B., Boriel, D., Handa, R. J., … Goldstein, J. M. (2013). Volumetric parcellation methodology of the human hypothalamus in neuroimaging: Normative data and sex differences. NeuroImage, 69(0), 1–10. http://doi.org/10.1016/j.neuroimage.2012.12.008

Marcello, E., Epis, R., Saraceno, C., Gardoni, F., Borroni, B., Cattabeni, F., … Di, L. M. (2010). SAP97-mediated local trafficking is altered in Alzheimer disease patients' hippocampus. Neurobiol.Aging, 33(2), 422.e1-e10. http://doi.org/10.1016/j.neurobiolaging.2010.09.015

Marcello, E., Saraceno, C., Musardo, S., Vara, H., de la Fuente, A. G., Pelucchi, S., … Di Luca, M. (2013). Endocytosis of synaptic ADAM10 in neuronal plasticity and Alzheimer's disease. The Journal of Clinical Investigation, 123(6), 2523–2538. http://doi.org/10.1172/JCI65401

Marlatt, M. W., Bauer, J., Aronica, E., van Haastert, E. S., Hoozemans, J. J., Joels, M., & Lucassen, P. J. (2014). Proliferation in the Alzheimer hippocampus is due to microglia, not

astroglia, and occurs at sites of amyloid deposition. Neural Plasticity, 2014.
Marutle, A., Gillberg, P.-G., Bergfors, A., Yu, W., Ni, R., Nennesmo, I., … Nordberg, A. (2013). 3H-Deprenyl and 3H-PIB autoradiography show different laminar distributions of astroglia and fibrillar β-amyloid in Alzheimer brain. J Neuroinflammation, 10(1), 90.
Mazin, P., Xiong, J., Liu, X., Yan, Z., Zhang, X., Li, M., … Khaitovich, P. (2013). Widespread splicing changes in human brain development and aging. Molecular Systems Biology, 9(1), n/a-n/a. http://doi.org/10.1038/msb.2012.67
Melief, J., de Wit, S. J., van Eden, C. G., Teunissen, C., Hamann, J., Uitdehaag, B. M., … Huitinga, I. (2013). HPA axis activity in multiple sclerosis correlates with disease severity, lesion type and gene expression in normal-appearing white matter. Acta Neuropathologica, 126(2), 237–249.
Melief, J., Koning, N., Schuurman, K. G., Van De Garde, M. D. B., Smolders, J., Hoek, R. M., … Huitinga, I. (2012). Phenotyping primary human microglia: Tight regulation of LPS responsiveness. Glia, 60(10), 1506–1517. http://doi.org/10.1002/glia.22370
Melief, J., Schuurman, K. G., Garde, M. D., Smolders, J., Eijk, M., Hamann, J., & Huitinga, I. (2013). Microglia in normal appearing white matter of multiple sclerosis are alerted but immunosuppressed. Glia, 61(11), 1848–1861.
Melzer, T. R., Watts, R., MacAskill, M. R., Pitcher, T. L., Livingston, L., Keenan, R. J., … Anderson, T. J. (2012). Grey matter atrophy in cognitively impaired Parkinson's disease. J Neurol Neurosurg Psy, 83. http://doi.org/10.1136/jnnp-2011-300828
Mencarelli, C., Bode, G. H., Losen, M., Kulharia, M., Molenaar, P. C., Veerhuis, R., … Martinez-Martinez, P. (2012). Goodpasture antigen-binding protein/ceramide transporter binds to human serum amyloid P-component and is present in brain amyloid plaques. Journal of Biological Chemistry, 287(18), 14897–14911.
Meng, Q. Y., Chen, X. N., Zhao, J., Swaab, D. F., & Zhou, J. N. (2011). Distribution of retinoic acid receptor-alpha immunoreactivity in the human hypothalamus. Neuroscience, 174(1873–7544 (Electronic)), 132–142. http://doi.org/10.1016/j.neuroscience.2010.11.058
Miyashita, A., Koike, A., Jun, G., Wang, L.-S., Takahashi, S., Matsubara, E., … The Alzheimer Disease Genetics Consortium. (2013). SORL1 Is Genetically Associated with Late-Onset Alzheimer's Disease in Japanese, Koreans and Caucasians. PLoS ONE, 8(4), e58618. http://doi.org/10.1371/journal.pone.0058618
Mizee, M. R., Nijland, P. G., Pol, S. M. A., Drexhage, J. A. R., Hof, B., Mebius, R., … Vries, H. E. (2014). Astrocyte-derived retinoic acid: a novel regulator of blood–brain barrier function in multiple sclerosis. Acta Neuropathologica, 128(5), 691–703. http://doi.org/10.1007/s00401-014-1335-6
Mizrak, S. C., Chikhovskaya, J. V., Sadri-Ardekani, H., van, D. S., Korver, C. M., Hovingh, S. E., … van Pelt, A. M. (2010). Embryonic stem cell-like cells derived from adult human testis. Hum.Reprod., 25(1), 158–167. http://doi.org/10.1093/humrep/dep354
Mohan, H., Friese, A., Albrecht, S., Krumbholz, M., Elliott, C. L., Arthur, A., … Meinl, E. (2014). Transcript profiling of different types of multiple sclerosis lesions yields FGF1 as a promoter of remyelination. Acta Neuropathologica Communications, 2(1), 1–18.

http://doi.org/10.1186/s40478-014-0168-9
Mohan, H., Krumbholz, M., Sharma, R., Eisele, S., Junker, A., Sixt, M., … Meinl, E. (2010). Extracellular matrix in multiple sclerosis lesions: Fibrillar collagens, biglycan and decorin are upregulated and associated with infiltrating immune cells. Brain Pathol., 20(5), 966–975. http://doi.org/10.1111/j.1750-3639.2010.00399.x
Mok, K. Y., Jones, E. L., Hanney, M., Harold, D., Sims, R., Williams, J., … Hardy, J. (2014). Polymorphisms in BACE2 may affect the age of onset Alzheimer's dementia in Down syndrome. Neurobiology of Aging, 35(6), 1513-e1.
Moloney, A. M., Griffin, R. J., Timmons, S., O'Connor, R., Ravid, R., & O'Neill, C. (2010). Defects in IGF-1 receptor, insulin receptor and IRS-1/2 in Alzheimer's disease indicate possible resistance to IGF-1 and insulin signalling. Neurobiology of Aging, 31(2), 224–243. http://doi.org/10.1016/j.neurobiolaging.2008.04.002
Mulder, S. D., Nielsen, H. M., Blankenstein, M. A., Eikelenboom, P., & Veerhuis, R. (2014). Apolipoproteins E and J interfere with amyloid-beta uptake by primary human astrocytes and microglia in vitro. Glia, 62(4), 493–503.
Mulder, S. D., Veerhuis, R., Blankenstein, M. A., & Nielsen, H. M. (2012). The effect of amyloid associated proteins on the expression of genes involved in amyloid-β clearance by adult human astrocytes. Special Issue: Stress and Neurological Disease, 233(1), 373–379. http://doi.org/10.1016/j.expneurol.2011.11.001
Mulder, S., & Veerhuis, R. (2012). Differences in pathways used for beta-amyloid uptake by adult human astrocytes and microglia? Alzheimer's Association International Conference 2012 Alzheimer's Association International Conference 2012, 8(4, Supplement), P642–P643. http://doi.org/10.1016/j.jalz.2012.05.1717
Myers, A. J., Williams, L., Gatt, J. M., McAuley-Clark, E. Z., Dobson-Stone, C., Schofield, P. R., & Nemeroff, C. B. (2014). Variation in the oxytocin receptor gene is associated with increased risk for anxiety, stress and depression in individuals with a history of exposure to early life stress. Journal of Psychiatric Research, 59, 93–100. http://doi.org/10.1016/j.jpsychires.2014.08.021
Nabuurs, R. J. A., Natte, R., de Ronde, F. M., Hegeman-Kleinn, I., Dijkstra, J., van Duinen, S. G., … van der Weerd, L. (2013). MR microscopy of human amyloid-beta deposits: characterization of parenchymal amyloid, diffuse plaques, and vascular amyloid. Journal of Alzheimer's Disease : JAD, 34(4), 1037–1049. http://doi.org/10.3233/JAD-122215
Nabuurs, R. J., Hegeman, I., Natté, R., van Duinen, S. G., van Buchem, M. A., van der Weerd, L., & Webb, A. G. (2011). High-field MRI of single histological slices using an inductively coupled, self-resonant microcoil: application to ex vivo samples of patients with Alzheimer's disease. NMR in Biomedicine, 24(4), 351–357.
Naj, A. C., Jun, G., Reitz, C., Kunkle, B. W., Perry, W., Park, Y., … Pericak-Vance, M. A. (2014). Age-at-Onset in Late Onset Alzheimer Disease is Modified by Multiple Genetic Loci. JAMA Neurology, 71(11), 1394–1404. http://doi.org/10.1001/jamaneurol.2014.1491
Naj, A. C., Jun, G., Reitz, C., Kunkle, B. W., Perry, W., Park, Y. S., … Wang, L.-S. (2014). Effects of multiple genetic loci on age at onset in late-onset Alzheimer disease: a genome-wide association study. JAMA Neurology, 71(11), 1394–1404.

Ni, R., Gillberg, P.-G., Bergfors, A., Marutle, A., & Nordberg, A. (2013). Amyloid tracers detect multiple binding sites in Alzheimer's disease brain tissue. Brain, 136(7), 2217–2227. http://doi.org/10.1093/brain/awt142

Ni, R., Marutle, A., & Nordberg, A. (2013). Modulation of α7 nicotinic acetylcholine receptor and fibrillar amyloid-β interactions in Alzheimer's disease brain. Journal of Alzheimer's Disease, 33(3), 841–851.

Nielsen, H. M., Ek, D., Avdic, U., Orbjörn, C., Hansson, O., Veerhuis, R., … Wennström, M. (2013). NG2 cells, a new trail for Alzheimer's disease mechanisms? Acta Neuropathologica Communications, 1(1), 1–13. http://doi.org/10.1186/2051-5960-1-7

Nielsen, H. M., Mulder, S. D., Belien, J. A., Musters, R. J., Eikelenboom, P., & Veerhuis, R. (2010). Astrocytic A beta 1-42 uptake is determined by A beta-aggregation state and the presence of amyloid-associated proteins. Glia, 58(10), 1235–1246. http://doi.org/10.1002/glia.21004

Nijholt, D. A., de Graaf, T. R., van Haastert, E. S., Oliveira, A. O., Berkers, C. R., Zwart, R., … Scheper, W. (2011). Endoplasmic reticulum stress activates autophagy but not the proteasome in neuronal cells: implications for Alzheimer's disease. Cell Death.Differ., 18(6), 1071–1081. http://doi.org/10.1038/cdd.2010.176

Nijholt, D. A., Nölle, A., van Haastert, E. S., Edelijn, H., Toonen, R. F., Hoozemans, J. J., & Scheper, W. (2013). Unfolded protein response activates glycogen synthase kinase-3 via selective lysosomal degradation. Neurobiology of Aging.

Nijholt, D. A., van Haastert, E. S., Rozemuller, A. J., Scheper, W., & Hoozemans, J. J. (2012). The unfolded protein response is associated with early tau pathology in the hippocampus of tauopathies. J.Pathol., 226(5), 693–702. http://doi.org/10.1002/path.3969

Nijland, P. G., Michailidou, I., Witte, M. E., Mizee, M. R., van der Pol, S. M. A., van het Hof, B., … van Horssen, J. (2014). Cellular distribution of glucose and monocarboxylate transporters in human brain white matter and multiple sclerosis lesions. Glia, 62(7), 1125–1141. http://doi.org/10.1002/glia.22667

Nijland, P. G., Witte, M. E., van het Hof, B., van der Pol, S., Bauer, J., Lassmann, H., … van Horssen, J. (2014). Astroglial PGC-1alpha increases mitochondrial antioxidant capacity and suppresses inflammation: implications for multiple sclerosis. Acta Neuropathologica Communications, 2(1), 1–13. http://doi.org/10.1186/s40478-014-0170-2

Noelker, C., Morel, L., Lescot, T., Osterloh, A., varez-Fischer, D., Breloer, M., … Hartman, A. (2013). Toll like receptor 4 mediates cell death in a mouse MPTP model of Parkinson disease. Sci Rep, 3. http://doi.org/10.1038/srep01393

Nölle, A., van Haastert, E. S., Zwart, R., Hoozemans, J. J. M., & Scheper, W. (2013). Ubiquilin 2 Is Not Associated with Tau Pathology. PLoS ONE, 8(9), e76598. http://doi.org/10.1371/journal.pone.0076598

Norden, D. M., & Godbout, J. P. (2013). Review: microglia of the aged brain: primed to be activated and resistant to regulation. Neuropathol Appl Neurobiol, 39. http://doi.org/10.1111/j.1365-2990.2012.01306.x

O' Neill, C. (2013). PI3-kinase/Akt/mTOR signaling: Impaired on/off switches in aging, cognitive decline and Alzheimer's disease. Proceedings of the Eleventh International Sympo-

sium on the Neurobiology and Neuroendocrinology of Aging, 48(7), 647–653. http://doi.org/10.1016/j.exger.2013.02.025

O'Callaghan, P., Noborn, F., Sehlin, D., Li, J., Lannfelt, L., Lindahl, U., & Zhang, X. (2014). Apolipoprotein E increases cell association of amyloid-β 40 through heparan sulfate and LRP1 dependent pathways. Amyloid, 21(2), 76–87. http://doi.org/10.3109/13506129.2013.879643

Olah, M., Raj, D., Brouwer, N., De Haas, A. H., Eggen, B. J., Den Dunnen, W. F., … Boddeke, H. W. (2012a). An optimized protocol for the acute isolation of human microglia from autopsy brain samples. Glia, 60(1), 96–111.

Olah, M., Raj, D., Brouwer, N., De Haas, A. H., Eggen, B. J. L., Den Dunnen, W. F. A., … Boddeke, H. W. G. M. (2012b). An optimized protocol for the acute isolation of human microglia from autopsy brain samples. Glia, 60(1), 96–111. http://doi.org/10.1002/glia.21251

O'Neill, C., Kiely, A., Coakley, M., Manning, S., & LongSmith, C. (2012). Insulin and IGF-1 signalling: longevity, protein homoeostasis and Alzheimer's disease. Biochemical Society Transactions, 40(4), 721.

Orre, M., Kamphuis, W., Dooves, S., Kooijman, L., Chan, E. T., Kirk, C. J., … Jansen, A. H. (2013). Reactive glia show increased immunoproteasome activity in Alzheimer's disease. Brain, 136(5), 1415–1431.

Ouwendijk, W. J., Choe, A., Nagel, M. A., Gilden, D., Osterhaus, A. D., Cohrs, R. J., & Verjans, G. M. (2012). Restricted varicella-zoster virus transcription in human trigeminal ganglia obtained soon after death. J.Virol., 86(18), 10203–10206. http://doi.org/10.1128/JVI.01331-12

Ouwendijk, W. J., Flowerdew, S. E., Wick, D., Horn, A. K., Sinicina, I., Strupp, M., … Hufner, K. (2012). Immunohistochemical detection of intra-neuronal VZV proteins in snap-frozen human ganglia is confounded by antibodies directed against blood group A1-associated antigens. J.Neurovirol., 18(3), 172–180. http://doi.org/10.1007/s13365-012-0095-0

Pampliega, O., Domercq, M., Soria, F. N., Villoslada, P., Rodriguez-Antiguedad, A., & Matute, C. (2011). Increased expression of cystine/glutamate antiporter in multiple sclerosis. J.Neuroinflammation., 8(1742–2094 (Electronic)), 63. http://doi.org/10.1186/1742-2094-8-63

Pannemans, K., Broux, B., Goris, A., Dubois, B., Broekmans, T., Van Wijmeersch, B., … Hellings, N. (2014). HLA-E restricted CD8+ T cell subsets are phenotypically altered in multiple sclerosis patients. Multiple Sclerosis Journal, 20(7), 790–801.

Papanikolopoulou, K., & Skoulakis, E. M. (2014). Temporally distinct phosphorylations differentiate Tau-dependent learning deficits and premature mortality in Drosophila. Human Molecular Genetics, ddu726.

Pardo, L. M., Rizzu, P., Francescatto, M., Vitezic, M., Leday, G. G. R., Sanchez, J. S., … Heutink, P. (2013). Regional differences in gene expression and promoter usage in aged human brains. Neurobiology of Aging, 34(7), 1825–1836. http://doi.org/10.1016/j.neurobiolaging.2013.01.005

Pavlakis, P. P., Alexopoulos, H., Kosmidis, M. L., Stamboulis, E., Routsias, J. G., Tzartos,

S. J., … Dalakas, M. C. (2011). Peripheral neuropathies in Sjogren syndrome: a new reappraisal. J.Neurol.Neurosurg.Psychiatry, 82(7), 798–802. http://doi.org/10.1136/jnnp.2010.222109

Peferoen, L. A., Lamers, F., Lodder, L. N., Gerritsen, W. H., Huitinga, I., Melief, J., … Amor, S. (2010). Epstein Barr virus is not a characteristic feature in the central nervous system in established multiple sclerosis. Brain, 133(5), e137. http://doi.org/10.1093/brain/awp296

Pereira, J. B., Junqué, C., Bartrès-Faz, D., Ramírez-Ruiz, B., Marti, M. J., & Tolosa, E. (2013). Regional vulnerability of hippocampal subfields and memory deficits in Parkinson's disease. Hippocampus, 8. http://doi.org/10.1002/hipo.22131

Perry, V. H. (2010). Contribution of systemic inflammation to chronic neurodegeneration. Acta Neuropathol, 120. http://doi.org/10.1007/s00401-010-0722-x

Perry, V. H., & Holmes, C. (2014). Microglial priming in neurodegenerative disease. Nat Rev Neurol, 10. http://doi.org/10.1038/nrneurol.2014.38

Persengiev, S., Kondova, I., & Bontrop, R. E. (2012). Functional Annotation of Small Non-coding RNAs Target Genes Provides Evidence for a Deregulated Ubiquitin-Proteasome Pathway in Spinocerebellar Ataxia Type 1. Journal of Nucleic Acids, 2012.

Persengiev, S., Kondova, I., Otting, N., Koeppen, A. H., & Bontrop, R. E. (2011). Genome-wide analysis of miRNA expression reveals a potential role for miR-144 in brain aging and spinocerebellar ataxia pathogenesis. Neurobiology of Aging, 32(12), 2316-e17.

Persengiev, S. P., Kondova, I. I., & Bontrop, R. E. (2012). The impact of microRNAs on brain aging and neurodegeneration. Current Gerontology and Geriatrics Research, 2012.

Prins, M., Dutta, R., Baselmans, B., Brevé, J. J., Bol, J. G., Deckard, S. A., … Vries, H. E. (2014). Discrepancy in CCL2 and CCR2 expression in white versus grey matter hippocampal lesions of Multiple Sclerosis patients. Acta Neuropathologica Communications, 2(1), 1.

Qi, X.-R., Kamphuis, W., Wang, S., Wang, Q., Lucassen, P. J., Zhou, J.-N., & Swaab, D. F. (2013). Aberrant stress hormone receptor balance in the human prefrontal cortex and hypothalamic paraventricular nucleus of depressed patients. Psychoneuroendocrinology, 38(6), 863–870. http://doi.org/10.1016/j.psyneuen.2012.09.014

Qiao, J.-P., Gan, C.-S., Wang, C.-W., Ge, J.-F., Nan, D.-D., Pan, J., & Zhou, J.-N. (2012). Novel Indanone Derivatives as Potential Imaging Probes for β-Amyloid Plaques in the Brain. ChemBioChem, 13(11), 1652–1662. http://doi.org/10.1002/cbic.201200223

Quadri, M., Federico, A., Zhao, T., Breedveld, G. J., Battisti, C., Delnooz, C., … Monti, L. (2012). Mutations in SLC30A10 Cause Parkinsonism and Dystonia with Hypermanganesemia, Polycythemia, and Chronic Liver Disease. The American Journal of Human Genetics, 90(3), 467–477.

Quinn, J. G., Coulson, D. T., Brockbank, S., Beyer, N., Ravid, R., Hellemans, J., … Johnston, J. A. (2012). alpha-Synuclein mRNA and soluble alpha-synuclein protein levels in post-mortem brain from patients with Parkinson's disease, dementia with Lewy bodies, and Alzheimer's disease. Brain Res., 1459(1872–6240 (Electronic)), 71–80. http://doi.org/10.1016/j.brainres.2012.04.018

Ramaglia, V., Hughes, T. R., Donev, R. M., Ruseva, M. M., Wu, X., Huitinga, I., … Morgan, B. P. (2012). C3-dependent mechanism of microglial priming relevant to multiple sclerosis.

Proceedings of the National Academy of Sciences, 109(3), 965–970.
Rascovsky, K., Hodges, J. R., Knopman, D., Mendez, M. F., Kramer, J. H., Neuhaus, J., … Miller, B. L. (2011). Sensitivity of revised diagnostic criteria for the behavioural variant of frontotemporal dementia. Brain, 134(9), 2456–2477. http://doi.org/10.1093/brain/awr179
Ravenscroft, T. A., Baker, M. C., Rutherford, N. J., Neumann, M., Mackenzie, I. R., Josephs, K. A., … Rademakers, R. (2013). Mutations in protein N-arginine methyltransferases are not the cause of FTLD-FUS. Neurobiology of Aging, 34(9), 2235.e11-2235.e13. http://doi.org/10.1016/j.neurobiolaging.2013.04.004
Reijerkerk, A., Lopez-Ramirez, M. A., van het Hof, B., Drexhage, J. A. R., Kamphuis, W. W., Kooij, G., … de Vries, H. E. (2013). MicroRNAs Regulate Human Brain Endothelial Cell-Barrier Function in Inflammation: Implications for Multiple Sclerosis. The Journal of Neuroscience, 33(16), 6857–6863.
Reinert, J., Martens, H., Huettenrauch, M., Kolbow, T., Lannfelt, L., Ingelsson, M., … Wirths, O. (2014). Aβ38 in the Brains of Patients with Sporadic and Familial Alzheimer's Disease and Transgenic Mouse Models. Journal of Alzheimer's Disease, 39(4), 871–881.
Respondek, G., Roeber, S., Kretzschmar, H., Troakes, C., Al-Sarraj, S., Gelpi, E., … Oertel, W. H. (2013). Accuracy of the National Institute for Neurological Disorders and Stroke/Society for Progressive Supranuclear Palsy and neuroprotection and natural history in Parkinson plus syndromes criteria for the diagnosis of progressive supranuclear palsy. Movement Disorders, 28(4), 504–509.
Respondek, G., Stamelou, M., Kurz, C., Ferguson, L. W., Rajput, A., Chiu, W. Z., … for the Movement Disorder Society—endorsed PSP Study Group. (2014). The phenotypic spectrum of progressive supranuclear palsy: A retrospective multicenter study of 100 definite cases. Movement Disorders, 29(14), 1758–1766. http://doi.org/10.1002/mds.26054
Reuwer, A. Q., van, E. M., Houttuijn-Bloemendaal, F. M., van der Loos, C. M., Claessen, N., Teeling, P., … Aten, J. (2011). The prolactin receptor is expressed in macrophages within human carotid atherosclerotic plaques: a role for prolactin in atherogenesis? J.Endocrinol., 208(2), 107–117. http://doi.org/10.1677/JOE-10-0076
Richard, E., Carrano, A., Hoozemans, J. J., van, H. J., van Haastert, E. S., Eurelings, L. S., … Rozemuller, A. J. (2010). Characteristics of dyshoric capillary cerebral amyloid angiopathy. J.Neuropathol.Exp.Neurol., 69(11), 1158–1167. http://doi.org/10.1097/NEN.0b013e3181fab558
Richard, E., van Gool, W. A., Hoozemans, J. J., van Haastert, E. S., Eikelenboom, P., Rozemuller, A. J., & van de Berg, W. D. (2010). Morphometric changes in the cortical microvascular network in Alzheimer's disease. J.Alzheimers.Dis., 22(3), 811–818. http://doi.org/10.3233/JAD-2010-100849
Ridderstad Wollberg, A., Ericsson-Dahlstrand, A., Juréus, A., Ekerot, P., Simon, S., Nilsson, M., … Johansson, R. (2014). Pharmacological inhibition of the chemokine receptor CX3CR1 attenuates disease in a chronic-relapsing rat model for multiple sclerosis. Proceedings of the National Academy of Sciences, 111(14), 5409–5414. http://doi.org/10.1073/pnas.1316510111
Ridge, P. G., Mukherjee, S., Crane, P. K., Kauwe, J. S. K., & Alzheimer's Disease Genetics Con-

sortium. (2013). Alzheimer's Disease: Analyzing the Missing Heritability. PLoS ONE, 8(11), e79771. http://doi.org/10.1371/journal.pone.0079771

Riese, H., van den Heuvel, E. R., Snieder, H., den Dunnen, W. F., Plosch, T., Kema, I. P., & Niezen-Koning, K. E. (2014). Association between methylation of the SLC6A4 promoter region in peripheral blood leukocytes and methylation in amygdala tissue. Psychosomatic Medicine, 76(3), 244–246.

Rieusset, A., Schaller, F., Unmehopa, U., Matarazzo, V., Watrin, F., Linke, M., … Muscatelli, F. (2013). Stochastic Loss of Silencing of the Imprinted Ndn/NDN Allele, in a Mouse Model and Humans with Prader-Willi Syndrome, Has Functional Consequences. PLoS Genet, 9(9), e1003752. http://doi.org/10.1371/journal.pgen.1003752

Rodríguez-Cueto, C., Benito, C., Fernández-Ruiz, J., Romero, J., Hernández-Gálvez, M., & Gómez-Ruiz, M. (2014). Changes in CB1 and CB2 receptors in the post-mortem cerebellum of humans affected by spinocerebellar ataxias. British Journal of Pharmacology, 171(6), 1472–1489.

Rodríguez-Cueto, C., Benito, C., Romero, J., Hernández-Gálvez, M., Gómez-Ruiz, M., & Fernández-Ruiz, J. (2014). Endocannabinoid-hydrolysing enzymes in the post-mortem cerebellum of humans affected by hereditary autosomal dominant ataxias. Pathobiology, 81(3), 149–159.

Roodveldt, C., Labrador-Garrido, A., Gonzalez-Rey, E., Lachaud, C. C., Guilliams, T., Fernandez-Montesinos, R., … Pozo, D. (2013). Preconditioning of microglia by a-synuclein strongly affects the response induced by toll-like receptor (TLR) stimulation. PLoS ONE, 8. http://doi.org/10.1371/journal.pone.0079160

Rosenberger, A. F., Rozemuller, A. J., van der Flier, W. M., Scheltens, P., van der Vies, S. M., & Hoozemans, J. J. (2014). Altered distribution of the EphA4 kinase in hippocampal brain tissue of patients with Alzheimer's disease correlates with pathology. Acta Neuropathologica Communications, 2(1), 1–13. http://doi.org/10.1186/s40478-014-0079-9

Roses, A. D. (2010). An inherited variable poly-T repeat genotype in TOMM40 in Alzheimer disease. Arch.Neurol., 67(5), 536–541. http://doi.org/10.1001/archneurol.2010.88

Rozemuller, A. J. M., Jansen, C., Carrano, A., van Haastert, E. S., Hondius, D., van der Vies, S. M., & Hoozemans, J. J. M. (2012). Neuroinflammation and Common Mechanism in Alzheimer's Disease and Prion Amyloidosis: Amyloid-Associated Proteins, Neuroinflammation and Neurofibrillary Degeneration. Neurodegenerative Diseases, 10(1–4), 301–304. http://doi.org/10.1159/000335380

Schenk, G. J., Dijkstra, S., Hof, A. J., Pol, S., Drexhage, J. A., Valk, P., … Vries, H. E. (2013). Roles for HB-EGF and CD9 in multiple sclerosis. Glia, 61(11), 1890–1905.

Schieb, H., Kratzin, H., Jahn, O., Möbius, W., Rabe, S., Staufenbiel, M., … Klafki, H. W. (2011). β-Amyloid Peptide Variants in Brains and Cerebrospinal Fluid from Amyloid Precursor Protein (APP) Transgenic Mice COMPARISON WITH HUMAN ALZHEIMER AMYLOID. Journal of Biological Chemistry, 286(39), 33747–33758.

Schmitt, K., Richter, C., Backes, C., Meese, E., Ruprecht, K., & Mayer, J. (2013). Comprehensive Analysis of Human Endogenous Retrovirus Group HERV-W Locus Transcription in Multiple Sclerosis Brain Lesions by High-Throughput Amplicon Sequencing. Journal

of Virology, 87(24), 13837–13852. http://doi.org/10.1128/JVI.02388-13
Schneider, E., El Hajj, N., Richter, S., Roche-Santiago, J., Nanda, I., Schempp, W., … Haaf, T. (2014). Widespread differences in cortex DNA methylation of the "language gene" CNTNAP2 between humans and chimpanzees. Epigenetics, 9(4), 533–545. http://doi.org/10.4161/epi.27689
Schneider-Hohendorf, T., Rossaint, J., Mohan, H., Böning, D., Breuer, J., Kuhlmann, T., … Vestweber, D. (2014). VLA-4 blockade promotes differential routes into human CNS involving PSGL-1 rolling of T cells and MCAM-adhesion of TH17 cells. The Journal of Experimental Medicine, 211(9), 1833–1846.
Schwab, B. C., Heida, T., Zhao, Y., van Gils, S. A., & van Wezel, R. J. A. (2014). Pallidal gap junctions-triggers of synchrony in Parkinson's disease? Movement Disorders, 29(12), 1486–1494. http://doi.org/10.1002/mds.25987
Seabrook, T. J., Littlewood-Evans, A., Brinkmann, V., Pollinger, B., Schnell, C., & Hiestand, P. C. (2010). Angiogenesis is present in experimental autoimmune encephalomyelitis and pro-angiogenic factors are increased in multiple sclerosis lesions. J.Neuroinflammation., 7(1), 95. http://doi.org/10.1186/1742-2094-7-95
Seelaar, H., Klijnsma, K. Y., de, K., van der Lugt, A., Chiu, W. Z., Azmani, A., … van Swieten, J. C. (2010). Frequency of ubiquitin and FUS-positive, TDP-43-negative frontotemporal lobar degeneration. J.Neurol., 257(5), 747–753. http://doi.org/10.1007/s00415-009-5404-z
Seelaar, H., Papma, J., Garraux, G., de Koning, I., Reijs, A., Valkema, R., … van Swieten, J. (2011). Brain perfusion patterns in familial frontotemporal lobar degeneration. Neurology, 77(4), 384–392.
Seewann, A., Kooi, E. J., Roosendaal, S. D., Pouwels, P. J., Wattjes, M. P., van, der, … Geurts, J. J. (2012). Postmortem verification of MS cortical lesion detection with 3D DIR. Neurology, 78(5), 302–308. http://doi.org/10.1212/WNL.0b013e31824528a0
Sepulveda-Falla, D., Barrera-Ocampo, A., Hagel, C., Korwitz, A., Vinueza-Veloz, M. F., Zhou, K., … Glatzel, M. (2014). Familial Alzheimer's disease–associated presenilin-1 alters cerebellar activity and calcium homeostasis. The Journal of Clinical Investigation, 124(4), 1552–1567. http://doi.org/10.1172/JCI66407
Shan, L., Bossers, K., Luchetti, S., Balesar, R., Lethbridge, N., Chazot, P. L., … Swaab, D. F. (2012). Alterations in the histaminergic system in the substantia nigra and striatum of Parkinson's patients: a postmortem study. Neurobiology of Aging, 33(7), 1488.e1-1488.e13. http://doi.org/10.1016/j.neurobiolaging.2011.10.016
Shan, L., Bossers, K., Unmehopa, U., Bao, A.-M., & Swaab, D. F. (2012). Alterations in the histaminergic system in Alzheimer's disease: a postmortem study. Neurobiology of Aging, 33(11), 2585–2598. http://doi.org/10.1016/j.neurobiolaging.2011.12.026
Shan, L., Hofman, M. A., van Wamelen, D. J., Van Someren, E. J., Bao, A.-M., & Dick, F. S. (2012). Diurnal fluctuation in histidine decarboxylase expression, the rate limiting enzyme for histamine production, and its disorder in neurodegenerative diseases. Sleep, 35(5), 713.
Shan, L., Liu, C.-Q., Balesar, R., Hofman, M. A., Bao, A.-M., & Swaab, D. F. (2012). Neuronal

histamine production remains unaltered in Parkinson's disease despite the accumulation of Lewy bodies and Lewy neurites in the tuberomamillary nucleus. Neurobiology of Aging, 33(7), 1343–1344.

Shan, L., Qi, X.-R., Balesar, R., Swaab, D. F., & Bao, A.-M. (2013). Unaltered histaminergic system in depression: A postmortem study. Journal of Affective Disorders, 146(2), 220–223. http://doi.org/10.1016/j.jad.2012.09.008

Shan, L., Swaab, D. F., & Bao, A.-M. (2013). Neuronal histaminergic system in aging and age-related neurodegenerative disorders. Proceedings of the Eleventh International Symposium on the Neurobiology and Neuroendocrinology of Aging, 48(7), 603–607. http://doi.org/10.1016/j.exger.2012.08.002

Shen, Y. X., Sun, A. M., Fang, S., Feng, L. J., Li, Q., Hou, H. L., … Zhou, J. N. (2012). Hrd1 Facilitates Tau Degradation and Promotes Neuron Survival. Current Molecular Medicine, 12(2), 138–152. http://doi.org/10.2174/156652412798889009

Siljee, J. E., Unmehopa, U. A., Kalsbeek, A., Swaab, D. F., Fliers, E., & Alkemade, A. (2013). Melanocortin 4 receptor distribution in the human hypothalamus. European Journal of Endocrinology, 168(3), 361–369. http://doi.org/10.1530/EJE-12-0750

Simón-Sánchez, J., Dopper, E. G., Cohn-Hokke, P. E., Hukema, R. K., Nicolaou, N., Seelaar, H., … Deeg, D. J. (2012). The clinical and pathological phenotype of C9ORF72 hexanucleotide repeat expansions. Brain, 135(3), 723–735.

Sloane, J. A., Blitz, D., Margolin, Z., & Vartanian, T. (2010). A clear and present danger: endogenous ligands of Toll-like receptors. Neruomol Med, 12. http://doi.org/10.1007/s12017-009-8094-x

Smolders, J., Moen, S. M., Damoiseaux, J., Huitinga, I., & Holmøy, T. (2011). Vitamin D in the healthy and inflamed central nervous system: access and function. European Charcot Foundation Symposium A Reappraisal of Nutrition and Environment in Multiple Sclerosis European Charcot Foundation Symposium, 311(1–2), 37–43. http://doi.org/10.1016/j.jns.2011.07.033

Smolders, J., Remmerswaal, E. B., Schuurman, K. G., Melief, J., van Eden, C. G., van Lier, R. A., … Hamann, J. (2013). Characteristics of differentiated CD8+ and CD4+ T cells present in the human brain. Acta Neuropathologica, 126(4), 525–535.

Smolders, J., Schuurman, K. G., van Strien, M. E., Melief, J., Hendrickx, D., Hol, E. M., … Huitinga, I. (2013). Expression of Vitamin D Receptor and Metabolizing Enzymes in Multiple Sclerosis—Affected Brain Tissue. Journal of Neuropathology & Experimental Neurology, 72(2), 91–105.

Somel, M., Liu, X., Tang, L., Yan, Z., Hu, H., Guo, S., … Xie, G. (2011). MicroRNA-driven developmental remodeling in the brain distinguishes humans from other primates. PLoS Biology, 9(12), e1001214.

Soreq, L., Guffanti, A., Salomonis, N., Simchovitz, A., Israel, Z., Bergman, H., & Soreq, H. (2014). Long non-coding RNA and alternative splicing modulations in Parkinson's leukocytes identified by RNA sequencing. PLoS Comput Biol, 10(3), e1003517.

Stargardt, A., Gillis, J., Kamphuis, W., Wiemhoefer, A., Kooijman, L., Raspe, M., … Reits, E. (2013). Reduced amyloid-β degradation in early Alzheimer's disease but not in the

APPswePS1dE9 and 3xTg-AD mouse models. Aging Cell, 12(3), 499–507.
Steen, C., Wilczak, N., Hoogduin, J. M., Koch, M., & De Keyser, J. (2010). Reduced Creatine Kinase B Activity in Multiple Sclerosis Normal Appearing White Matter. PLoS ONE, 5(5), e10811. http://doi.org/10.1371/journal.pone.0010811
Stoffels, J. M., de Jonge, J. C., Stancic, M., Nomden, A., van Strien, M. E., Ma, D., … Hoekstra, D. (2013). Fibronectin aggregation in multiple sclerosis lesions impairs remyelination. Brain, 136(1), 116–131.
Stueber, C., Morawski, M., Schäfer, A., Labadie, C., Wähnert, M., Leuze, C., … Geyer, S. (2014). Myelin and iron concentration in the human brain: a quantitative study of MRI contrast. Neuroimage, 93, 95–106.
Sun, Y., Bak, B., Schoenmakers, N., van Trotsenburg, A. S. P., Oostdijk, W., Voshol, P., … Bernard, D. J. (2012). Loss-of-function mutations in IGSF1 cause an X-linked syndrome of central hypothyroidism and testicular enlargement. Nat Genet, 44(12), 1375–1381. http://doi.org/10.1038/ng.2453
Swaab, D. F., & Bao, A. M. (2011). (Re-)activation of neurons in aging and dementia: lessons from the hypothalamus. Exp.Gerontol., 46(2), 178–184. http://doi.org/10.1016/j.exger.2010.08.028
Swahn, B. M., Wensbo, D., Sandell, J., Sohn, D., Slivo, C., Pyring, D., … Svensson, S. (2010). Synthesis and evaluation of 2-pyridylbenzothiazole, 2-pyridylbenzoxazole and 2-pyridylbenzofuran derivatives as 11C-PET imaging agents for beta-amyloid plaques. Bioorg. Med.Chem.Lett., 20(6), 1976–1980.
Swaminathan, S., Huentelman, M. J., Corneveaux, J. J., Myers, A. J., Faber, K. M., Foroud, T., … Saykin, A. J. (2012). Analysis of Copy Number Variation in Alzheimer's Disease in a Cohort of Clinically Characterized and Neuropathologically Verified Individuals. PLoS ONE, 7(12), 1–12.
Tallantyre, E. C., Bø, L., Al-Rawashdeh, O., Owens, T., Polman, C. H., Lowe, J. S., & Evangelou, N. (2010). Clinico-pathological evidence that axonal loss underlies disability in progressive multiple sclerosis. Multiple Sclerosis, 16(4), 406–411.
Tang, Z., Bereczki, E., Zhang, H., Wang, S., Li, C., Ji, X., … Pei, J.-J. (2013). Mammalian Target of Rapamycin (mTor) Mediates Tau Protein Dyshomeostasis: IMPLICATION FOR ALZHEIMER DISEASE. Journal of Biological Chemistry, 288(22), 15556–15570. http://doi.org/10.1074/jbc.M112.435123
Tauber, M., Diene, G., Mimoun, E., Cabal-Berthoumieu, S., Mantoulan, C., Molinas, C., … Salles, J. P. (2014). Prader-Willi syndrome as a model of human hyperphagia. Frontiers of Hormone Research, 42, 93–106. http://doi.org/10.1159/000358317
Taziaux, M., Swaab, D. F., & Bakker, J. (2012). Sex Differences in the Neurokinin B System in the Human Infundibular Nucleus. Journal of Clinical Endocrinology & Metabolism, 97(12), E2210–E2220.
Teunissen, C. E., Veerhuis, R., De Vente, J., Verhey, F. R. J., Vreeling, F., van Boxtel, M. P. J., … Pelsers, M. A. L. (2011). Brain-specific fatty acid-binding protein is elevated in serum of patients with dementia-related diseases. European Journal of Neurology, 18(6), 865–871. http://doi.org/10.1111/j.1468-1331.2010.03273.x

Thathiah, A., Horre, K., Snellinx, A., Vandewyer, E., Huang, Y., Ciesielska, M., … De Strooper, B. (2013). [beta]-arrestin 2 regulates A[beta] generation and [gamma]-secretase activity in Alzheimer's disease. Nat Med, 19(1), 43–49. http://doi.org/10.1038/nm.3023

Tofighi, R., Barde, S., Palkovits, M., Höög, A., Hökfelt, T., Ceccatelli, S., & Hulting, A.-L. (2012). Galanin and its three receptors in human pituitary adenoma. Neuropeptides, 46(5), 195–201. http://doi.org/10.1016/j.npep.2012.07.003

Tong, Z., Han, C., Luo, W., Wang, X., Li, H., Luo, H., … He, R. (2012). Accumulated hippocampal formaldehyde induces age-dependent memory decline. Age (Dordr.), (1574–4647 (Electronic)). http://doi.org/10.1007/s11357-012-9388-8

Tong, Z., Zhang, J., Luo, W., Wang, W., Li, F., Li, H., … He, R. (2011). Urine formaldehyde level is inversely correlated to mini mental state examination scores in senile dementia. Neurobiol.Aging, 32(1), 31–41.

Torkildsen, O., Stansberg, C., Angelskar, S. M., Kooi, E. J., Geurts, J. J., van, der, … Bo, L. (2010). Upregulation of immunoglobulin-related genes in cortical sections from multiple sclerosis patients. Brain Pathol., 20(4), 720–729. http://doi.org/10.1111/j.1750-3639.2009.00343.x

Torres-Platas, S. G., Comeau, S., Rachalski, A., Dal Bo, G., Cruceanu, C., Turecki, G., … Mechawar, N. (2014). Morphometric characterization of microglial phenotypes in human cerebral cortex. J Neuroinflam, 11. http://doi.org/10.1186/1742-2094-11-12

Trudler, D., Farfara, D., & Frenkel, D. (2010). Toll-like receptors expression and signaling in glia cells in neuro-amyloidogenic diseases: towards future therapeutic application. Mediators of Inflammation, vol. 2010, Article ID 497987, 12 pages. doi:10.1155/2010/497987

Tsamis, K. I., Mytilinaios, D. G., Njau, S. N., & Baloyannis, S. J. (2013). Glutamate Receptors in Human Caudate Nucleus in Normal Aging and Alzheimers Disease. Current Alzheimer Research, 10(5), 469–475.

Tsvetkov, P., Adamovich, Y., Elliott, E., & Shaul, Y. (2011). E3 Ligase STUB1/CHIP Regulates NAD(P)H:Quinone Oxidoreductase 1 (NQO1) Accumulation in Aged Brain, a Process Impaired in Certain Alzheimer Disease Patients. Journal of Biological Chemistry, 286(11), 8839–8845. http://doi.org/10.1074/jbc.M110.193276

Valdes-Gonzalez, T., Goto-Inoue, N., Hirano, W., Ishiyama, H., Hayasaka, T., Setou, M., & Taki, T. (2011). New approach for glyco- and lipidomics--molecular scanning of human brain gangliosides by TLC-Blot and MALDI-QIT-TOF MS. J.Neurochem., 116(5), 678–683. http://doi.org/10.1111/j.1471-4159.2010.07152.x

van Abel, D., Michel, O., Veerhuis, R., Jacobs, M., van Dijk, M., & Oudejans, C. B. (2012). Direct Downregulation of CNTNAP2 by STOX1A is Associated with Alzheimer's Disease. Journal of Alzheimer's Disease, 31(4), 793–800.

van de Berg, W. D., Hepp, D. H., Dijkstra, A. A., Rozemuller, J. A. M., Berendse, H. W., & Foncke, E. (2012). Patterns of alpha-synuclein pathology in incidental cases and clinical subtypes of Parkinson's disease. Parkinsonism & Related Disorders, 18, S28–S30.

van de Berg, W. D. J., Dijkstra, A. A., Hebb, D. H., & Rozemuller, A. J. M. (2012). 1.7.1 NEUROPATHOLOGY IN THE PREMOTOR STAGES AND SUBTYPES OF PARKINSON'S DISEASE. Abstracts of WFN XIX World Congress on Parkinson's Disease and Related

Disorders, 18, Supplement 2(0), S4. http://doi.org/10.1016/S1353-8020(11)70087-6
van de Berg, W. D. J., Hepp, D. H., Dijkstra, A. A., Rozemuller, J. A. M., Berendse, H. W., & Foncke, E. (2012). Patterns of alpha-synuclein pathology in incidental cases and clinical subtypes of Parkinson's disease. Proceedings of WFN XIX World Congress on Parkinson's Disease and Related Disorders, 18, Supplement 1(0), S28–S30. http://doi.org/10.1016/S1353-8020(11)70011-6
van de Kraats, C., Killestein, J., Popescu, V., Rijkers, E., Vrenken, H., Lütjohann, D., … Teunissen, C. (2014). Oxysterols and cholesterol precursors correlate to magnetic resonance imaging measures of neurodegeneration in multiple sclerosis. Multiple Sclerosis Journal, 20(4), 412–417. http://doi.org/10.1177/1352458513499421
van den Berge, S. A., Kevenaar, J. T., Sluijs, J. A., & Hol, E. M. (2012). Dementia in Parkinson's Disease Correlates with alpha-Synuclein Pathology but Not with Cortical Astrogliosis. Parkinsons.Dis., 2012(2042–0080 (Electronic)), 420957. http://doi.org/10.1155/2012/420957
van den Berge, S. A., Middeldorp, J., Zhang, C. E., Curtis, M. A., Leonard, B. W., Mastroeni, D., … Hol, E. M. (2010). Longterm quiescent cells in the aged human subventricular neurogenic system specifically express GFAP-delta. Aging Cell, 9(1474–9726 (Electronic)), 313–326. http://doi.org/10.1111/j.1474-9726.2010.00556.x
van den Berge, S. A., van Strien, M. E., Korecka, J. A., Dijkstra, A. A., Sluijs, J. A., Kooijman, L., … Verhaagen, J. (2011). The proliferative capacity of the subventricular zone is maintained in the parkinsonian brain. Brain, 134(11), 3249–3263.
van den Berge, S. A., van Strien, M. E., Korecka, J. A., Dijkstra, A. A., Sluijs, J. A., Kooijman, L., … Verhaagen, J. (2012). Reply: Quantitative evaluation of the human subventricular zone. Brain, 135(8), e222–e222.
van der Flier, W. M., Pijnenburg, Y. A. L., Prins, N., Lemstra, A. W., Bouwman, F. H., Teunissen, C. E., … Scheltens, P. (2014). Optimizing patient care and research: the Amsterdam Dementia Cohort. Journal of Alzheimer's Disease : JAD, 41(1), 313–327. http://doi.org/10.3233/JAD-132306
van der Star, B. J., Y.S. Vogel, D., Kipp, M., Puentes, F., Baker, D., & Amor, S. (2012). In Vitro and In Vivo Models of Multiple Sclerosis. CNS & Neurological Disorders - Drug Targets, 11(5), 570–588. http://doi.org/10.2174/187152712801661284
van Dijk, K. D., Berendse, H. W., Drukarch, B., Fratantoni, S. A., Pham, T. V., Piersma, S. R., … Jimenez, C. R. (2012). The proteome of the locus ceruleus in Parkinson's disease: relevance to pathogenesis. Brain Pathology, 22(4), 485–498.
van Dijk, K. D., Berendse, H. W., Drukarch, B., Fratantoni, S. A., Pham, T. V., Piersma, S. R., … van de Berg, W. D. J. (2012). The Proteome of the Locus Ceruleus in Parkinson's Disease: Relevance to Pathogenesis. Brain Pathology, 22(4), 485–498. http://doi.org/10.1111/j.1750-3639.2011.00540.x
van Dijk, M., van Bezu, J., Poutsma, A., Veerhuis, R., Rozemuller, A. J., Scheper, W., … Oudejans, C. B. (2010). The pre-eclampsia gene STOX1 controls a conserved pathway in placenta and brain upregulated in late-onset Alzheimer's disease. J.Alzheimers.Dis., 19(2), 673–679. http://doi.org/10.3233/JAD-2010-1265

van Doorn, R., Lopes Pinheiro, M. A., Kooij, G., Lakeman, K., van Het Hof, B., van der Pol, S., … van der Kam, E. (2012). Sphingosine 1-phosphate receptor 5 mediates the immune quiescence of the human brain endothelial barrier. J Neuroinflammation, 9(1), 133.

van Doorn, R., van Horssen, J., Verzijl, D., Witte, M., Ronken, E., van Het, H. B., … de Vries, H. E. (2010). Sphingosine 1-phosphate receptor 1 and 3 are upregulated in multiple sclerosis lesions. Glia, 58(12), 1465–1476. http://doi.org/10.1002/glia.21021

van Eijk, M., Aust, G., Brouwer, M. S., van, M. M., Voerman, J. S., Dijke, I. E., … Hamann, J. (2010). Differential expression of the EGF-TM7 family members CD97 and EMR2 in lipid-laden macrophages in atherosclerosis, multiple sclerosis and Gaucher disease. Immunol.Lett., 129(1879–0542 (Electronic)), 64–71.

van Horssen, J., Drexhage, J. A., Flor, T., Gerritsen, W., van, der, & de Vries, H. E. (2010). Nrf2 and DJ1 are consistently upregulated in inflammatory multiple sclerosis lesions. Free Radic.Biol.Med., 49(1873–4596 (Electronic)), 1283–1289. http://doi.org/10.1016/j.freeradbiomed.2010.07.013

van Horssen, J., Singh, S., van der Pol, S., Kipp, M., Lim, J. L., Peferoen, L., … Geurts, J. (2012). Clusters of activated microglia in normal-appearing white matter show signs of innate immune activation. J Neuroinflammation, 9(1), 156.

van Luijn, M., Kreft, K., Jongsma, M., Mes, S., Wierenga-Wolf, A., van Meurs, M., … Hintzen, R. (2012). Downregulation of C-type lectin CLEC16A causes late endosomal dysfunction and impairs processing and surface expression of HLA class II, 137(Supplement s1), 28–28.

van Noort, J. M., Bsibsi, M., Gerritsen, W. H., van, der, Bajramovic, J. J., Steinman, L., & Amor, S. (2010). Alphab-crystallin is a target for adaptive immune responses and a trigger of innate responses in preactive multiple sclerosis lesions. J.Neuropathol.Exp.Neurol., 69(7), 694–703. http://doi.org/10.1097/NEN.0b013e3181e4939c

van Noort, J. M., van den Elsen, P. J., van, H. J., Geurts, J. J., van, der, & Amor, S. (2011). Preactive Multiple Sclerosis Lesions Offer Novel Clues for Neuroprotective Therapeutic Strategies. CNS.Neurol.Disord.Drug Targets., 10(1), 68–81.

van Riel, D., Leijten, L. M., Verdijk, R. M., GeurtsvanKessel, C., van der Vries, E., van Rossum, A. M. C., … Kuiken, T. (2014). Evidence for Influenza Virus CNS Invasion Along the Olfactory Route in an Immunocompromised Infant. Journal of Infectious Diseases, 210(3), 419–423. http://doi.org/10.1093/infdis/jiu097

Van Strien, M. E., Drukarch, B., Bol, J. G., Van Der Valk, P., Van Horssen, J., Gerritsen, W. H., … Van Dam, A.-M. (2011). Appearance of Tissue Transglutaminase in Astrocytes in Multiple Sclerosis Lesions: A Role in Cell Adhesion and Migration? Brain Pathology, 21(1), 44–54. http://doi.org/10.1111/j.1750-3639.2010.00428.x

van Strien, M. E., Sluijs, J. A., Reynolds, B. A., Steindler, D. A., Aronica, E., & Hol, E. M. (2014). Isolation of neural progenitor cells from the human adult subventricular zone based on expression of the cell surface marker CD271. Stem Cells Translational Medicine, 3(4), 470.

van Strien, M. E., van den Berge, S. A., & Hol, E. M. (2011). Migrating neuroblasts in the adult human brain: a stream reduced to a trickle. Cell Research, 21(11), 1523–1525.

Van Tijn, P., Kamphuis, W., Marlatt, M. W., Hol, E. M., & Lucassen, P. J. (2011). Presenilin mouse and zebrafish models for dementia: focus on neurogenesis. Progress in Neurobiology, 93(2), 149–164.

van Velzen, M., Jing, L., Osterhaus, A. D., Sette, A., Koelle, D. M., & Verjans, G. M. (2013). Local CD4 and CD8 T-cell reactivity to HSV-1 antigens documents broad viral protein expression and immune competence in latently infected human trigeminal ganglia. PLoS Pathog, 9(8), e1003547.

van Velzen, M., van Loenen, F. B., Meesters, R. J., de Graaf, M., Remeijer, L., Luider, T. M., … Verjans, G. M. (2012). Latent acyclovir-resistant herpes simplex virus type 1 in trigeminal ganglia of immunocompetent individuals. Journal of Infectious Diseases, 205(10), 1539–1543.

van Wamelen, D. J., Ahmad, A. N., Anink, J. J., Roos, R. A., & Swaab, D. F. (2013). Neuropeptide alterations in the infundibular nucleus of Huntington's disease patients. J.Neuroendocrinol., 25(2), 198–205. http://doi.org/10.1111/j.1365-2826.2012.02379.x

van Wamelen, D. J., Aziz, N. A., Anink, J. J., Roos, R. A., & Swaab, D. F. (2012). Paraventricular Nucleus Neuropeptide Expression in Huntington's Disease Patients. Brain Pathol., 22(5), 654–661. http://doi.org/10.1111/j.1750-3639.2012.00565.x

van Wamelen, D. J., Aziz, N. A., Anink, J. J., van Steenhoven, R., Angeloni, D., Fraschini, F., … Swaab, D. F. (2013). Suprachiasmatic nucleus neuropeptide expression in patients with Huntington's Disease. Sleep, 36(1), 117–125.

van Wamelen, D. J., Shan, L., Aziz, N. A., Anink, J. J., Bao, A., Roos, R. A., & Swaab, D. F. (2011). Functional increase of brain histaminergic signaling in Huntington's disease. Brain Pathology, 21(4), 419–427.

van Zwam, M., Wierenga-Wolf, A. F., Melief, M. J., Schrijver, B., Laman, J. D., & Boven, L. A. (2010). Myelin ingestion by macrophages promotes their motility and capacity to recruit myeloid cells. J.Neuroimmunol., 225(1872–8421 (Electronic)), 112–117. http://doi.org/10.1016/j.jneuroim.2010.04.021

Varani, K., Vincenzi, F., Tosi, A., Gessi, S., Casetta, I., Granieri, G., … Borea, P. A. (2010). A2A adenosine receptor overexpression and functionality, as well as TNF-alpha levels, correlate with motor symptoms in Parkinson's disease. FASEB J., 24(2), 587–598. http://doi.org/10.1096/fj.09-141044

Vázquez-Villoldo, N., Domercq, M., Martín, A., Llop, J., Gómez-Vallejo, V., & Matute, C. (2014). P2X4 receptors control the fate and survival of activated microglia. Glia, 62(2), 171–184. http://doi.org/10.1002/glia.22596

Venkataramani, V., Wirths, O., Budka, H., Hartig, W., Kovacs, G. G., & Bayer, T. A. (2012). Antibody 9D5 recognizes oligomeric pyroglutamate amyloid-beta in a fraction of amyloid-beta deposits in Alzheimer's disease without cross-reactivity with other protein aggregates. J.Alzheimers.Dis., 29(2), 361–371. http://doi.org/10.3233/JAD-2011-111379

Vermunt, M. W., Reinink, P., Korving, J., de Bruijn, E., Creyghton, P. M., Basak, O., … Creyghton, M. P. (2014). Large-Scale Identification of Coregulated Enhancer Networks in the Adult Human Brain. Cell Reports, 9(2), 767–779. http://doi.org/10.1016/j.celrep.2014.09.023

Verwey, N. A., Hoozemans, J. J., Korth, C., van Royen, M. R., Prikulis, I., Wouters, D., … Scheltens, P. (2013). Immunohistochemical characterization of novel monoclonal antibodies against the N-terminus of amyloid β-peptide. Amyloid, 20(3), 179–187.

Vijayaraghavan, S., Karami, A., Aeinehband, S., Behbahani, H., Grandien, A., Nilsson, B., … Darreh-Shori, T. (2013). Regulated Extracellular Choline Acetyltransferase Activity—The Plausible Missing Link of the Distant Action of Acetylcholine in the Cholinergic Anti-Inflammatory Pathway. PLoS ONE, 8(6), e65936. http://doi.org/10.1371/journal.pone.0065936

Vogel, D., Vereyken, E., Glim, J. E., Heijnen, P., Moeton, M., van der Valk, P., … Dijkstra, C. D. (2013). Macrophages in inflammatory multiple sclerosis lesions have an intermediate activation status. J Neuroinflammation, 10(1), 35–35.

Waehnert, M., Dinse, J., Weiss, M., Streicher, M., Waehnert, P., Geyer, S., … Bazin, P.-L. (2014). Anatomically motivated modeling of cortical laminae. Neuroimage, 93, 210–220.

Wamelen, D. J. van, Aziz, N. A., Zhao, J., Balesar, R., Unmehopa, U., Roos, R. A. C., & Swaab, D. F. (2013). Decreased Hypothalamic Prohormone Convertase Expression in Huntington Disease Patients. Journal of Neuropathology & Experimental Neurology, 72(12), 1126–1134. http://doi.org/10.1097/NEN.0000000000000010

Wang, Q., Joels, M., Swaab, D., & Lucassen, P. (2012). Hippocampal GR expression is increased in elderly depressed females. Neuropharmacology, 62(1), 527–533.

Wang, Q., Van Heerikhuize, J., Aronica, E., Kawata, M., Seress, L., Joels, M., … Lucassen, P. J. (2013). Glucocorticoid receptor protein expression in human hippocampus; stability with age. Neurobiology of Aging, 34(6), 1662–1673. http://doi.org/10.1016/j.neurobiolaging.2012.11.019

Wang, Q., Verweij, E., Krugers, H., Joels, M., Swaab, D., & Lucassen, P. (2013). Distribution of the glucocorticoid receptor in the human amygdala; changes in mood disorder patients. Brain Structure and Function, 1–12.

Wang, Q., Verweij, E., Krugers, H., Joels, M., Swaab, D., & Lucassen, P. (2014). Distribution of the glucocorticoid receptor in the human amygdala; changes in mood disorder patients. Brain Structure and Function, 219(5), 1615–1626.

Watanabe, T., Hikichi, Y., Willuweit, A., Shintani, Y., & Horiguchi, T. (2012). FBL2 regulates amyloid precursor protein (APP) metabolism by promoting ubiquitination-dependent APP degradation and inhibition of APP endocytosis. J.Neurosci., 32(10), 3352–3365. http://doi.org/10.1523/JNEUROSCI.5659-11.2012

Watanabe, T., von der, K. H., Wang, X., Shintani, Y., & Horiguchi, T. (2012). Neuronal Expression of F-Box and Leucine-Rich-Repeat Protein 2 Decreases over Braak Stages in the Brains of Alzheimer's Disease Patients. Neurodegener.Dis., 11(1). http://doi.org/10.1159/000336016

Watson, M. B., Richter, F., Lee, S. K., Gabby, L., Wu, J., Masliah, E., … Chesselet, M. F. (2012). Regionally-specific microglial activation in young mice over-expressing human wildtype alpha-synuclein. Exp Neurol, 237. http://doi.org/10.1016/j.expneurol.2012.06.025

Wawrzik, M., Unmehopa, U. A., Swaab, D. F., van de Nes, J., Buiting, K., & Horsthemke, B. (2010). The C15orf2 gene in the Prader-Willi syndrome region is subject to genomic im-

printing and positive selection. Neurogenetics., 11(2), 153–161. http://doi.org/10.1007/s10048-009-0231-z

Westerlund, M., Behbahani, H., Gellhaar, S., Forsell, C., Belin, A. C., Anvret, A., … Sydow, O. (2011). Altered enzymatic activity and allele frequency of OMI/HTRA2 in Alzheimer's disease. The FASEB Journal, 25(4), 1345–1352.

Wijte, D., McDonnell, L. A., Balog, C. I., Bossers, K., Deelder, A. M., Swaab, D. F., … Mayboroda, O. A. (2012). A novel peptidomics approach to detect markers of Alzheimer's disease in cerebrospinal fluid. Methods, 56(4), 500–507. http://doi.org/10.1016/j.ymeth.2012.03.018

Wilhelmus, M. M., de, J. M., Rozemuller, A. J., Breve, J., Bol, J. G., Eckert, R. L., & Drukarch, B. (2012). Transglutaminase 1 and its regulator tazarotene-induced gene 3 localize to neuronal tau inclusions in tauopathies. J.Pathol., 226(1), 132–142. http://doi.org/10.1002/path.2984

Wilhelmus, M. M. M., Bol, J. G. J. M., van Duinen, S. G., & Drukarch, B. (2013). Extracellular matrix modulator lysyl oxidase colocalizes with amyloid-beta pathology in Alzheimer's disease and hereditary cerebral hemorrhage with amyloidosis—Dutch type. Experimental Gerontology, 48(2), 109–114. http://doi.org/10.1016/j.exger.2012.12.007

Wilhelmus, M. M. M., Verhaar, R., Bol, J. G. J. M., van Dam, A.-M., Hoozemans, J. J. M., Rozemuller, A. J. M., & Drukarch, B. (2011). Novel role of transglutaminase 1 in corpora amylacea formation? Neurobiology of Aging, 32(5), 845–856. http://doi.org/10.1016/j.neurobiolaging.2009.04.019

Wilhelmus, M. M., van der Pol, S. M., Jansen, Q., Witte, M. E., van, der, Rozemuller, A. J., … van, H. J. (2010). Association of Parkinson disease-related protein PINK1 with Alzheimer disease and multiple sclerosis brain lesions. Free Radic.Biol.Med., 50(3), 469–476. http://doi.org/10.1016/j.freeradbiomed.2010.11.033

Wilhelmus, M. M., Verhaar, R., Andringa, G., Bol, J. G., Cras, P., Shan, L., … Drukarch, B. (2011). Presence of Tissue Transglutaminase in Granular Endoplasmic Reticulum is Characteristic of Melanized Neurons in Parkinson's Disease Brain. Brain Pathol., 21(2), 130–139. http://doi.org/10.1111/j.1750-3639.2010.00429.x

Willems, J. G. P., Geurts, J. J. G., Huitinga, I., & Ramaglia, V. (2011). Immunopathology of the hippocampus in multiple sclerosis. Multiple Sclerosis Journal, 17(10S), S325–S325.

Wirths, O., Bethge, T., Marcello, A., Harmeier, A., Jawhar, S., Lucassen, P. J., … Ingelsson, M. (2010). Pyroglutamate Abeta pathology in APP/PS1KI mice, sporadic and familial Alzheimer's disease cases. Journal of Neural Transmission, 117(1), 85–96.

Wirths, O., Erck, C., Martens, H., Harmeier, A., Geumann, C., Jawhar, S., … Bayer, T. A. (2010). Identification of low molecular weight pyroglutamate A{beta} oligomers in Alzheimer disease: a novel tool for therapy and diagnosis. J.Biol.Chem., 285(53), 41517–41524. http://doi.org/10.1074/jbc.M110.178707

Wirths, O., Hillmann, A., Pradier, L., Hartig, W., & Bayer, T. A. (2013). Oligomeric pyroglutamate amyloid-beta is present in microglia and a subfraction of vessels in patients with Alzheimer's disease: implications for immunotherapy. Journal of Alzheimer's Disease : JAD, 35(4), 741–749. http://doi.org/10.3233/JAD-121945

Witte, M. E., Geurts, J. J., de Vries, H. E., van, der, & van, H. J. (2010). Mitochondrial dysfunction: a potential link between neuroinflammation and neurodegeneration? Mitochondrion., 10(5), 411–418. http://doi.org/10.1016/j.mito.2010.05.014

Witte, M. E., Nijland, P. G., Drexhage, J. A., Gerritsen, W., Geerts, D., van Het, H. B., … van, H. J. (2012). Reduced expression of PGC-1alpha partly underlies mitochondrial changes and correlates with neuronal loss in multiple sclerosis cortex. Acta Neuropathol., 125(2), 231–243. http://doi.org/10.1007/s00401-012-1052-y

Wong, T. H., Chiu, W. Z., Breedveld, G. J., Li, K. W., Verkerk, A. J. M. H., Hondius, D., … van Swieten, J. (2014). PRKAR1B mutation associated with a new neurodegenerative disorder with unique pathology. Brain, 137(5), 1361–1373. http://doi.org/10.1093/brain/awu067

Wu, Y.-H., Ursinus, J., Zhou, J.-N., Scheer, F. A. J. L., Ai-Min, B., Jockers, R., … Swaab, D. F. (2013). Alterations of melatonin receptors MT1 and MT2 in the hypothalamic suprachiasmatic nucleus during depression. Journal of Affective Disorders, 148(2–3), 357–367. http://doi.org/10.1016/j.jad.2012.12.025

Yang, Q., Ikemoto, K., Nishino, S., Yamaki, J., Kunii, Y., Wada, A., … Niwa, S.-I. (2012). DNA methylation of the Monoamine Oxidases A and B genes in postmortem brains of subjects with schizophrenia. Lung, 3(77), 5–5.

Yi, C.-X., Gericke, M., Krüger, M., Alkemade, A., Kabra, D. G., Hanske, S., … Tschöp, M. H. (2012). High calorie diet triggers hypothalamic angiopathy. Molecular Metabolism, 1(1–2), 95–100. http://doi.org/10.1016/j.molmet.2012.08.004

Yoon, S., Choi, J., Cho, M., Yang, K., Ha, H., Chung, I., … Kim, D. (2013). α-Secretase cleaved amyloid precursor protein (APP) accumulates in cholinergic dystrophic neurites in normal, aged hippocampus. Neuropathology and Applied Neurobiology, 39(7), 800–816.

Zhao, J., Bao, A. M., Qi, X. R., Kamphuis, W., Luchetti, S., Lou, J. S., & Swaab, D. F. (2012). Gene expression of GABA and glutamate pathway markers in the prefrontal cortex of non-suicidal elderly depressed patients. J.Affect.Disord., 138(3), 494–502. http://doi.org/10.1016/j.jad.2012.01.013

Zhao, T., De Graaff, E., Breedveld, G. J., Loda, A., Severijnen, L.-A., Wouters, C. H., … Willemsen, R. (2011a). Loss of nuclear activity of the FBXO7 protein in patients with parkinsonian-pyramidal syndrome (PARK15). PloS One, 6(2), e16983.

Zhao, T., De Graaff, E., Breedveld, G. J., Loda, A., Severijnen, L.-A., Wouters, C. H., … Willemsen, R. (2011b). Loss of nuclear activity of the FBXO7 protein in patients with parkinsonian-pyramidal syndrome (PARK15). PLoS One, 6(2), e16983.

Zhao, T., Severijnen, L.-A., van der Weiden, M., Zheng, P. P., Oostra, B. A., Hukema, R. K., … Bonifati, V. (2013). FBXO7 Immunoreactivity in α-Synuclein—Containing Inclusions in Parkinson Disease and Multiple System Atrophy. Journal of Neuropathology & Experimental Neurology, 72(6), 482–488.

Zhou, T., Wang, S., Ren, H., Qi, X.-R., Luchetti, S., Kamphuis, W., … Swaab, D. F. (2010). Dendritic cell nuclear protein-1, a novel depression-related protein, upregulates corticotropin-releasing hormone expression. Brain, 133(10), 3069–3079.

Zou, F., Chai, H. S., Younkin, C. S., Allen, M., Crook, J., Pankratz, V. S., … Ertekin-Taner, N.

(2012). Brain expression genome-wide association study (eGWAS) identifies human disease-associated variants. PLoS.Genet., 8(6), e1002707. http://doi.org/10.1371/journal.pgen.1002707

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For more information about the organization structure, please refer to Figure 17: Organization chart of the Netherlands Brain Bank (Appendix).

List of abbreviations

AD	Alzheimer's disease
ADHD	Attention deficit hyperactivity disorder
ASD	Autism spectrum disorder
BPD	Bipolar disorder
Contr	Non-demented control donors
FTLD/tau	Frontotemporal lobar degeneration/Tauopathy
MDD	Major depressive disorder
MS	Multiple sclerosis
OCD	Obsessive compulsive disorder
Other dem	Other types of dementia
PANR	Pathological report not ready yet
PD/DLBD	Parkinson's disease/Diffuse Lewy body dementia
PSP	Progressive supranuclear palsy
Psych	Psychiatric disorders (unspecified)
PTSD	Posttraumatic stress disorder
Rest group	Other diagnoses
SCHIZO	Schizophrenia
Trans	Transsexuality

Appendix

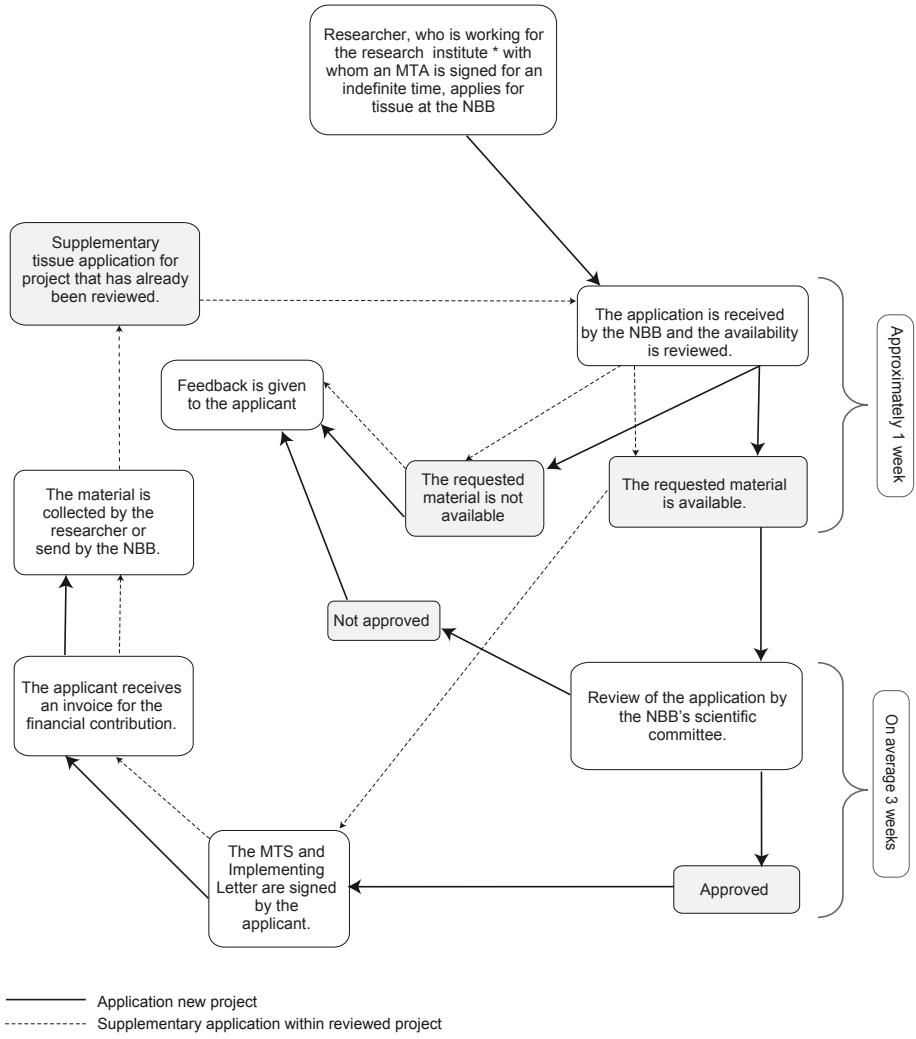

Figure 16 NBB's Procedure of Material Transfer

The research institute is a legal entity with whom the MTA is signed. Therefore, the research institute is a party of the agreement and is called "Recipient" of the Material in the MTA (and not the researcher). In case no MTA for indefinite time has been signed at the institute/organization of the researcher, the NBB will not supply any tissue. First, the authorized person (head manager or managing coordinator) needs to sign the MTA.

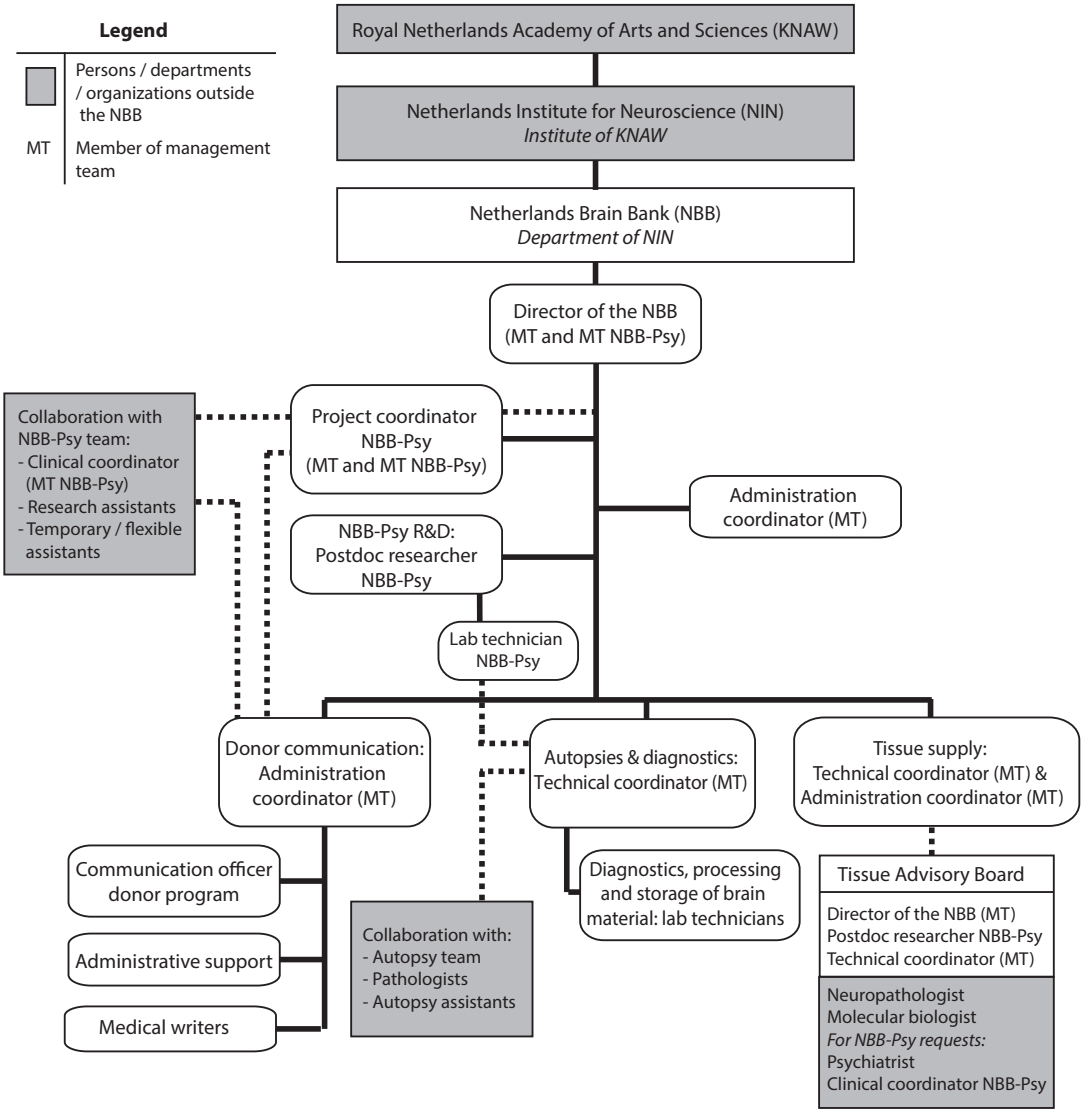

Figure 17 Organization chart of the Netherlands Brain Bank

This chart also shows the main types of activities within the NBB. Therefore, job titles of employees who perform tasks related to multiple types of activities occur more than once.