



## 2025

Zeiher, C., Kuhrt, H., Rifflet, A., Winter, K., Boon, L., Stassart, R.M., Nutma, E., Middeldorp, J., Strating, I.M., Boneca, I.G., Bechmann, I., Laman, J.D. (2025) Peptidoglycan accumulates in distinct brain regions and cell types over lifetime but is absent in newborns. *Brain Behav Immun.* 123, 799-812.

## 2024

Alsema, A.M., Wijering, M.H.C., Miedema, A., Kotah, J.M., Koster, M., Rijnsburger, M., van Weering H.R.J., de Vries, H.E., Baron, W., Kooistra, S.M., Eggen, B.J.L. (2024) Spatially resolved gene signatures of white matter lesion progression in multiple sclerosis. *Nat Neurosci.* 12, 2341-2353.

van der Feen, F.E., de Haan, G.A., van der Lijn, I., Heersema, D.J., Meilof, J.F., Heutink, J. (2024) Neurovisual rehabilitation in multiple sclerosis: Why a close integration of low-vision rehabilitation and neuropsychological rehabilitation may be effective for visual complaints. *Clin Rehabil.* 3, 393-402.

van der Feen, F.E., de Haan, G.A., van der Lijn, I., Stellingwerf, C., Vrijling, A.C.L., Heersema, D.J., Meilof, J.F., Heutink, J. (2024) The complex relation between visual complaints and decline in visual, visuoperceptual and cognitive functions in people with multiple sclerosis. *Neuropsychol Rehabil.* 34, 220-243.

Kotah, J.M., Eggen, B.J.L. An anti-aging vaccine: BCG turns back the clock on remyelination failure. (20224) *Immunity.* 57(9), 2005-2007.

Laman, J.D., Molloy, M., Noelle, R.J. (2024) Switching off autoimmunity. *Science.* 385(6711), 827-829.

Parker, W., Jirků, K., Patel, E., Williamson, L., Anderson, L., Laman, J.D. (2024) Reevaluating biota alteration: Reframing environmental influences on chronic immune disorders and exploring novel therapeutic opportunities. *Yale J Biol Med.* 97, 253-263.

Reinhardt, A., Rakers, S.E., Heersema, D.J., Beenakker, E.A.C., Meilof, J.F., Timmerman, M.E., Spikman, J.M. (2024) Protocol for the MS-CEBA study: an observational, prospective cohort study identifying Cognitive, Energetic, Behavioural and Affective (CEBA) profiles in Multiple Sclerosis to guide neuropsychological treatment choice. *BMC Neurol.* 24, 224.

Sabogal-Guaqueta, A.M., Mitchell-Garcia, T., Hunneman, J., Voshart, D., Thiruvalluvan, A., Fojier, F., Kruty, F., Trombetta-Lima, M., Eggen, B.J.L., Boddeke, E., Barazzuol, L., Dolga, A.M. (2024) Brain organoid models for studying the function of iPSC-derived microglia in neurodegeneration and brain tumours. *Neurobiol Dis.* 203, 106742.

Strandmoe, A.L., Bremer, J., Diercks, G.F.H., Gostyński, A., Ammatuna, E., Pas, H.H., Wouthuyzen-Bakker, M., Huls, G.A., Heeringa, P., Laman, J.D., Horváth, B. (2024) Beyond the skin: B cells in pemphigus vulgaris, tolerance and treatment. *Br J Dermatol.* 191(2), 164-176.

Sutter, P.A., Willis, C.M., Menoret, A., Nicaise, A.M., Sacino, A., Sikkema, A.H., Jellison, E., Win, K.K., Han, D.K., Church, W., Baron, W., Vella, A.T., Crocker, S.J. (2024) Astrocytic TIMP-1 regulates production of Anastellin, a novel inhibitor of oligodendrocyte differentiation and FTY720 responses. *Proc Natl Acad Sci.* 121, e2306816121.

Tan, I.L., Modderman, R., Stachurska, A., Almeida, R., de Vries, R., Heersema, D.J., Gacesa, R., Wijmenga, C., Jonkers, I.H., Meilof, J.F., Withoff, S. (2024) Potential biomarkers for multiple sclerosis stage from targeted proteomics and microRNA sequencing. *Brain Commun.* 6, 209.

van der Weijden, C.W.J., Ahmed, A.K.M.A., van der Hoorn, A., Zhu, J., Wu, C., Wang, Y., Stormezand, G.N., Dierckx, R.A.J.O., Meilof, J.F., de Vries, E.F.J. (2024) Myelin imaging of the spinal cord in animal



Multiple Sclerose  
Centrum  
Noord Nederland

models and patients with multiple sclerosis using [11C]MeDAS PET: A translational study. *J Nucl Med.* 00, 1-6.

van der Weijden, C.W.J., Pitombeira, M.S., Peretti, D.E., Campanholo, K.R., Kolinger, G.D., Rimkus, C.M., Buchpiguel, C.A., Dierckx, R.A.J.O., Renken, R.J., Meilof, J.F., de Vries, E.F.J., de Paula Faria, D. (2024) Unsupervised pattern analysis to differentiate multiple sclerosis phenotypes using principal component analysis on various MRI sequences. *J Clin Med.* 13(17), 5234.

Weinstein, J.R., Jayadev, S., Liddelow ,S., Eggen, B.J.L. (2024) Unboxing "Omics" in Glial Biology to Understand Neurological Disease. *Glia.* 0, 1-3

## 2023

Doelman, W., Reijnen, R.C., Diksman, N.S., Janssen, A.P.A., van Driel, N., 't Hart, B.A., Philippens, I., Araman, C., Baron, W., van Kasteren, S.I. (2023). Citrullinated human and murine MOG<sub>35-55</sub> display distinct biophysical and biochemical behavior. *J Biol Chem.* 299, 103065.

Licht-Mayer, S., Campbell, G.R., Mehta, A.R., McGill, K., Symonds, A., Al-Azki, S., Pryce, G., Zandee, S., Zhao, C., Kipp, M., Smith, K.J., Baker, D., Altmann, D., Anderton, S.M., Kap, Y.S., Laman, J.D., 't Hart, B.A., Rodriguez, M., Franklin, R.J.M., Chandran, S., Lassmann, H., Trapp, B.D., Mahad, D.J. (2023). Axonal response of mitochondria to demyelination and complex IV activity within demyelinated axons in experimental models of multiple sclerosis. *Neuropathol Appl Neurobiol.* 49, 12851.

Oost, W., Huitema, A. J., Kats, K., Giepmans, B.N.G., Kooistra, S.M., Eggen, B.J.L., Baron, W. (2023). Pathological ultrastructural alterations of myelinated axons in normal appearing white matter in progressive multiple sclerosis. *Acta Neuropathol. Commun.* 11, 100.

Pegoretti, V., Bauer, J., Fisher, R., Paro, I., Douwenga, W., Kontermann, R.E., Pfizenmaier, K., Houben, E., Broux, B., Hellings, N., Baron, W., Laman, J.D., Eisel, U.L.M. (2023). Sequential treatment with a TNFR2 agonist and a TNFR1 antagonist improves outcomes in a humanized mouse model for MS. *J Neuroinflammation.* 20, 106.

Sabogal-Guáqueta, A.M., Marmolejo-Garza, A., Trombetta-Lima, M., Oun A., Hunneman, J., Chen, T., Koistinaho, J., Lehtonen, S., Kortholt, A., Wolters, J.C., Bakker, B.M., Eggen, B.J.L., Boddeke, E., Dolga, A. (2023). Species-specific metabolic reprogramming in human and mouse microglia during inflammatory pathway induction. *Nat Commun.* 14, 6454.

Schellhammer, L., Beffinger, M., Salazar, U., Laman, J.D., Buch, T., vom Berg, J. (2023) Exit pathways of therapeutic antibodies from the brain and retention strategies. *iScience* 26, 108132.

Schepers, M., Paes, D., Tiane, A., Rombaut, B., Piccart, E., van Veggel, L., Gervois, P., Wolfs, E., Lambrechts, I., Brullo, C., Bruno, O., Fedele, E., Ricciarelli, R., ffrench-Constant, C., Bechler, M.E., van Schaik, P., Baron, W., Lefevere, E., Wasner, K., Grünwald, A., Verfaillie, C., Baeten, P., Broux, B., Wieringa, P., Hellings, N., Prickaerts, J., Vanmierlo, T. (2023). Selective PDE4 subtype inhibition provides new opportunities to intervene in neuroinflammatory versus myelin damaging hallmarks of multiple sclerosis. *Brain Behav Immun.* 109, 1-22.

Timmerman, R., Zuiderwijk-Sick, E.A., Baron, W., Bajramovic, J.J. (2023). *In silico-in vitro* modeling to uncover cues involved in establishing microglia identity: TGF-β3 and laminin can drive microglia signature gene expression. *Front Cell Neurosci.* 17, 1178504.

Vainchtein, I.D., Alsema, A.M., Dubbelaar, M.L., Grit, C., Vinet, J., van Weering H.R.J., Al-Izki, S., Biagini, G., Brouwer, N., Amor, S., Baker, D., Eggen, B.J.L., Boddeke, E.W.G.M., Kooistra, S.M. (2023) Characterizing microglial gene expression in a model of secondary progressive multiple sclerosis. *Glia* 71, 588-601.



Multiple Sclerose  
Centrum  
Noord Nederland

van Weering, H.R.J., Nijboer, T.W., Brummer, M.L., Boddeke, E.W.G.M., Eggen, B.J.L. (2023) Microglia morphotyping in the adult mouse CNS using hierarchical clustering on principal components reveals regional heterogeneity but no sexual dimorphism. *Glia* 71, 2356-2371.

van der Weijden, C.W.J., Biondetti, E., Gutmann, I.W., Dijkstra, H., McKerchar, R., de Paula Faria, D., de Vries, E.F.J., Meilof, J.F., Dierckx, R.A.J.O., Prevost, V.H., Rauscher, A. (2023) Quantitative myelin imaging with MRI and PET: an overview of techniques and their validation status. *Brain* 146, 1243–1266.

## 2022

Amor, S., McNamara, N.B., Gerrits, E., Marzin, M.C., Kooistra, S.M., Miron, V.E., Nutma, E. (2022). White matter microglia heterogeneity in the CNS. *Acta Neuropathol.* 143, 125-141.

Engelenburg, J., Lucassen, P.J., Sarafian, J., Parker, W., Laman, J.D. Dietary interventions in multiple sclerosis – microbiome and immunity. (2022) Multiple sclerosis and the microbiota: Progress in understanding the contribution of the gut microbiome to disease, *Evolution, Medicine, and Public Health* 10, 277–294.

van der Feen, F.E., de Haan G.A., van der Lijn, I., Huizinga, F., Meilof, J.F., Heersema, D.J., Heutink, J. (2022). Recognizing visual complaints in people with multiple sclerosis: Prevalence, nature and associations with key characteristics of MS. *Mult Scler Relat Disord.* 57, 103429.

van der Feen, F.E., de Haan, G.A., van der Lijn, I., Fuermaier, A.B.M., Heersema, T.J., Meilof, J.F., Heutink, J. (2022). Confirmatory factor analysis of the Dutch Screening Visual Complaints questionnaire in people with multiple sclerosis. *J Patient Rep Outcomes.* 6, 36.

Gorter, R.P., Baron, W. (2022). Recent insights into astrocytes as therapeutic targets for demyelinating diseases. *Curr Opin Pharmacol.* 65, 102261.

Gorter, R.P., Dijksman, N.S., Baron, W. (2022). Investigating demyelination, efficient remyelination and remyelination failure in organotypic cerebellar slice cultures: workflow and practical tips. *Methods Cell Biol.* 168, 103-123.

Miedema, A., Gerrits, E., Brouwer, N., Jiang, Q., Kracht, L., Meijer, M., Nutma, E., Peferoen-Baert, R., Pijnacker, A.T.E., Wesseling, E.M., Wijering, M.H.C., Gabius, H-J., Amor, S., Eggen, B.J.L., Kooistra, S.M. (2022) Brain macrophages acquire distinct transcriptomes in multiple sclerosis lesions and normal appearing white matter. *Acta Neuropathol Comm.* 10, 8.

Misriyal, C., Alsema, A.M., Wijering, M.H.C., Miedema, A., Mauthe, M., Reggiori, F., Eggen, B.J.L. (2022). Transcriptomic changes in autophagy-related genes are inversely correlated with inflammation and are associated with multiple sclerosis lesion pathology. *Brain Behav Immun Health.* 25, 100510.

van Schaik, P.E.M., Zuhorn, I.S., Baron, W. (2022). Targeting fibronectin to overcome remyelination failure in multiple sclerosis: The need of brain- and leions-targeted drug delivery. *Int J Mol Sci.* 23, 8418.

van Wageningen, T.A., Gerrits, E., Brouwer, N., Breve, J., Geurts, J.J.G., Eggen, B.J.L., Boddeke, H.W.G.M., van Dam, A-M. (2022) Distinct gene expression in demyelinated white and grey matter areas of patients with multiple sclerosis. *Brain Commun.* 17, 4.

van der Weijden, C.W.J., Meilof, J.F., van der Hoorn, A., Zhu, J., Wu, C., Wang, Y., Willemse, A.T.M., Dierckx, R.A.J.O., Lammertsma, A.A., de Vries, E.F.J. (2022) Quantitative assessment of myelin density using [11C]MeDAS PET in patients with multiple sclerosis: a first-in-human study. *Eur J Nucl Med Mol Imaging* 49, 3492-3507.



Multiple Sclerose  
Centrum  
Noord Nederland

van der Weijden C.W.J., van der Hoorn, A., Wang, Y., Willemsen, A.T.M., Dierckx, R.A.J.O., Lammertsma, A. A., de Vries, E.F.J. (2022) Investigation of image-derived input functions for non-invasive quantification of myelin density using [11C]MeDAS PET, *NeuroImage* 264.

van der Weijden, C.W.J., Pitombeira, M.S., Haveman, Y.R.A., Sanchez-Catasus, C.A., Campanholo, K.R., Kolinger, G.D., Rimkus, C.M., Buchpiguel, C.A., Dierckx, R.A.J.O., Renken, R.J., Meilof, J.F., de Vries, E.F.J., de Paula Faria, D. (2022) The effect of lesion filling on brain network analysis in multiple sclerosis using structural magnetic resonance imaging. *Insights Imaging* 13, 63.

van der Weijden, C.W., van der Hoorn, A., Potze, J.H., Renken, R.J., Borra, R.J., Dierckx, R.A., Gutmann, I.W., Ouaalam, H., Karimi, D., Gholipour, A., Warfield, S.K., de Vries, E.F., Meilof, J.F. (2022) Diffusion-derived parameters in lesions, peri-lesion and normal-appearing white matter in multiple sclerosis using tensor, kurtosis and pixel-based analysis. *J Cereb Blood Flow Metab.* 42, 2095.

Zhang, X., Kracht, L., Lerario, A.M., Dubbelaar, M.L., Brouwer, N., Wesseling, E.M., Boddeke, E.W.G.M., Eggen, B.J.L., Kooistra, S.M. (2022) Epigenetic regulation of innate immune memory in microglia. *J Neuroinflammation* 19, 111.

## 2021

Borggrewe, M., Grit, C., Vainchtein, I.D., Brouwer, N., Wesseling, E.M., Laman, J.D., Eggen, B.J.L., Kooistra, S.M., Boddeke, E.W.G.M. (2021). Regionally diverse astrocyte subtypes and their heterogeneous response to EAE. *Glia* 69, 1140-1154.

Borggrewe, M., Kooistra, S.M., Wesseling, E.M., Gierschek, F.L., Brummer, M.L., Nowak, E.C., Medeiros-Furquim, T., Otto, T.A., Lee, S.W., Noelle, R.J., Eggen, B.J.L., Laman, J.D. (2021). VISTA regulates microglia homeostasis and myelin phagocytosis, and is associated with MS lesion pathology. *Acta Neuropathol Commun.* 9, 91.

ten Bosch, G., Bolk, J., 't Hart, B.A., Laman, J.D. (2021). Multiple sclerosis is linked to MAPK-ERK overactivity in microglia. *J Mol Med.* 99, 1033-1042.

Dallabernardina, P., Benazzi, V., Laman, J.D., Seeberger, P.H., Loeffler, F.F. (2021). Automated glycan assembly of peptidoglycan backbone fragments. *Org. Biomol. Chem.* 19, 9829-9832.

Diaz-Heijtz, R., Gonzalez-Santana, A., Laman, J.D., (2021). News and Views: Young fecal microbiota rejuvenates the aging brain. *Nat Aging.* 1, 625-627.

Eckman, E., Laman, J.D., Fischer, K.F., Lopansri, B., Martins, T.B., HR Hill, H.R., Kriesel, J.D. (2021). Spinal fluid IgG antibodies from patients with demyelinating diseases bind multiple sclerosis-associated bacteria. *J Mol Med.* 99, 1399–1411.

Heng, Y., Zhang, X., Borggrewe, M., van Weering, H.R.J., Brummer, M.L., Nijboer, T.W., Joosten, L.A.B., Netea, M.G., Boddeke, E.W.G.M., Laman, J.D., Eggen, B.J.L. (2021). Systemic administration of beta-glucan induces immune training in microglia. *J Neuroinflammation* 18, 57-67.

Perez-Muñoz, M.E., Sugden, S., Harmsen, H.J.M., 't Hart, B.A., Laman, J.D., and Walter, J. (2021). Nutritional and ecological perspectives of potential microbiome-dependent and microbiome-independent diet effects in multiple sclerosis: Insights from marmosets. *iScience* 24, 102709.

van Wageningen, T.A., Gerrits, E., Palacin, I., Bonson, S., Huitinga, I., Eggen, B.J.L., van Dam, A.M. (2021). Exploring reported genes of microglia RNA-sequencing data: Uses and considerations. *Glia* 69, 2933-2946.

van der Weijden, C.W.J., García, D.V., Borra, R.J.H., Thurner, P., Meilof, J.F., van Laar, P.J., Dierckx, R.A.J.O., Gutmann, I.W., de Vries, E.F.J. (2021). Myelin quantification with MRI: A systematic review of accuracy and reproducibility. *Neuroimage* 226, 1-13.



van der Weijden, C.W.J., Meilof, J.F., de Vries, E.F.J. (2021). PET imaging in multiple sclerosis. In: Dierxkx, R.A.J.O., Otte, A., de Vries, E.F.J., van Waarde, A., Leenders, K.L. (eds) PET and SPECT in Neurology. Springer, Cham.

Werkman, I.L., Lentferink, D.H., Baron, W. (2021). Macrogia diversity: white and grey areas and relevance to remyelination. Cell Mol Life Sci. 78, 143–171.

Werkman, I.L., Kövilein, J., de Jonge, J.C., Baron, W. (2021). Impairing committed cholesterol biosynthesis in white matter astrocytes, but not grey matter astrocytes, enhances in vitro myelination. J Neurochem. 156, 553-701.

Zijdewind, I., Hyngstrom, A., Hunter, S. (2021). Editorial: Fatigability and Motor Performance in Special and Clinical Populations. Front. Physiol. 11. 570861.

## 2020

Borggrewe, M., Kooistra, S.M., Noelle, R.J., Eggen, B.J.L., Laman, J.D. (2020). Exploring the VISTA of microglia: immune checkpoints in CNS inflammation. J Mol Med. 98, 1415–1430.

van der Feen, F.E., de Haan G.A., van der Lijn, I., Heersema, D.J., Meilof, J.F., Heutink, J. (2020). Independent outdoor mobility of persons with multiple sclerosis – A systematic review. Mult Scler Relat Disord. 37, 101463.

Gorter, R.P., Baron, W. (2020). Matrix metalloproteinases shape the oligodendrocyte (niche) during development and upon demyelination. Neurosci Lett. 729, 134980.

Houben, E., Janssens, K., Hermans, D., Vandooren, J., Van den Haute, C., Scherpers, M., Vanmierlo, T., Lambichts, I., van Horssen, J., Baekeland, V., Opdenakker, G., Baron, W., Broux, B., Slaets, H., Hellings, N. (2020). Oncostatin M-induced astrocytic tissue inhibitor of metalloproteinases-1 drives remyelination. Proc Natl Acad Sci. 117, 5028-5038.

de Jong, J.M., Wang, P., Oomkens, M., Baron, W. (2020). Remodeling of the interstitial extracellular matrix in white matter multiple sclerosis lesions: Implications for remyelination (failure). J Neurosci Res. 98, 1370-1397.

Kracht, L., Borggrewe, M., Eskandar, S., Brouwer N., Chuva de Sousa Lopes, S.M., Laman, J.D., Scherjon, S.A., Prins, J.R., Kooistra, S.M., Eggen, B.J.L. (2020) Human fetal microglia acquire homeostatic immune sensing properties early in development. Science. 369, 530-537.

Laman, J.D., 't Hart, B.A., Power, C., Dziarski, R. (2020). Bacterial peptidoglycan as a driver of chronic brain inflammation. Trends Mol Med. 26, 670-682.

Licht-Mayer, S., Campbell, G.R., Canizares, M., Methta, A.R., Gane, A.B., McGill, K., Ghosh, A., Fullerton, A., Menezes, N., Dean, J., Dunham, J., Al-Azki, S., Pryce, G., Zandee, S., Zhao, C., Kipp, M., Smith, K.J., Baker, D., Altmann, D., Anderton, S.M., Kap, Y.S., Laman, J.D., 't Hart, B.A., Rodriguez, M., Watzlawick, R., Schwab, J., Carter, R., Morton, N., Zagnoni, M., Franklin, R.J.M., Mitchell, R., Fleetwood-Walker, S., Lyons, D.A., Chandran, S., Lassmann, H., Trapp, B.D., Mahad, D.J. (2020). Enhanced Axonal abnormalities in vanishing white matter response of mitochondria to demyelination offers neuroprotection: implications for multiple sclerosis. Acta Neuropathol. 140, 143-167.

Mamoei, S., Hvid, L.G., Jensen, H.B., Zijdewind, I., Stenager, E., Dalgas, U. (2020). Neurophysiological impairments in multiple sclerosis - central and peripheral motor pathways. Acta Neurol Scand. 142, 401-417.

Mamoei, S., Jensen, H.B., Dalgas, U., Zijdewind, I., Pedersen, A.K., Nygaard, M.K.E., Eskildse, S.F., Stenager, E., (2020). A cross-sectional comparison of performance, neurophysiological and MRI outcomes of responders and non-responders to fampridine treatment in multiple sclerosis - An explorative study. J Clin Neurosci. 82, 179-185.



Miedema, A., Wijering, M.H.C., Eggen, B.J.L., Kooistra, S.M. (2020) High-resolution transcriptomic and proteomic profiling of heterogeneity of brain-derived microglia in multiple sclerosis. *Front Mol Neurosci.* 13, 583811.

Misriyal, C., Mauthe, M., Reggiori, F., Eggen, B.J.L. (2020). Autophagy in multiple sclerosis: Two sides of the same coin. *Front Cell Neurosci.* 14, 603710.

Sabogal-Guáqueta, A.M., Marmolejo-Garza, A., Passos de Pádua, V., Eggen, B., Boddeke, E., Dolga, A.M. (2020) Microglia alterations in neurodegenerative diseases and their modeling with human induced pluripotent stem cell and other platforms. *Prog Neurobiol.* 190, 101805.

Vendrik, K.E.W., Ooijevaar, R.E., de Jong P.R.C., Laman, J.D., van Oosten, B.W., van Hilten, J.J., Ducarmon, Q.R., Keller, J.J., Kuijper, E.J., Contarino, M.F. (2020). Fecal microbiota transplantation in neurological disorders. *Front Cell Infect Microbiol.* 10, 98.

Werkman, I., Sikkema, A.H., Versluijs, J.B., Qin, J., de Boer, P., Baron, W. (2020). TLR3 agonists induce fibronectin aggregation by activated astrocytes: a role of pro-inflammatory cytokines and fibronectin splice variants. *Sci Rep.* 10, 532.

## 2019

Eggen, B.J.L., Boddeke, E.W.G.M., Kooistra, S.M. (2019) Regulation of microglia identity from an epigenetic and transcriptomic point of view. *Neuroscience* 405:3-13.

Espitia Pinzon, N., van Mierlo, H., de Jonge, J.C., Breve, J.J.P., Bol, J.G.J.M., Drukarch, B., van Dam, A.-M.\*, Baron, W.\* (2019). Tissue transglutaminase promotes early differentiation of oligodendrocyte progenitor cells. *Front Cell Neurosci.* 13, 281.

Ferreira, F.M., Palle, P., vom Berg, J., Prajwal, P., Laman, J.D., Buch, T. (2019). Bone marrow chimeras – a vital tool in basic and translational research. *J Mol Med.* 97, 889–896.

de Jong, C.G.H.M., Gabius, H.-J., Baron, W. (2019). The emerging role of galectins in (re)myelination and its potential for developing new approaches to treat multiple sclerosis. *Cell Mol Life Sci.* 77, 1289–1317.

Prak, R.P., van der Naalt, J., Zijdewind, I. (2019). Self-reported fatigue after mild traumatic brain injury is not associated with performance fatigability during a sustained maximal contraction. *Front Physiol.* 9, 1919.

Severijns, D., Cuypers, K., Meesen, R., Feys, P., Zijdewind, I. (2019). Force decline after low and high intensity contractions in persons with multiple sclerosis. *Clin Neurophysiol.* 130, 359-367.

## 2018

Borggrewe, M., Grit, C., Den Dunnen, W.F.A., Burm, S.M., Bajramovic, J.J., Noelle, R.F., Eggen, B.J.L., Laman, J.D. (2018). VISTA expression by microglia decreases during inflammation and is differentially regulated in CNS diseases. *Glia* 66, 2645-2658.

Dubbelaar, M.L., Kracht, L., Eggen, B.J.L., Boddeke, E.W.G.M. (2018). The kaleidoscope of microglia phenotypes. *Front Immunol.* 9, 1753.

Gorter, R.P., Nutma, E., Jahrei, M.C., de Jonge, J.C., Quinlan, R.A., van der Valk, P., van Noort, J.M., Baron, W., Amor, S. (2018). Heat shock proteins are differentially expressed in brain and spinal cord: implications for multiple sclerosis. *Clin Exp Immunol.* 194, 137-152.

't Hart, B.A., Laman, J.D., Kap, Y.S. (2018). Merits and complexities of modeling multiple sclerosis in non-human primates: implication for drug discovery. *Expert Opin Drug Discov.* 13, 387-397.



de Jong, C.G.H.M., Stancic, M., Pinxterhuis, T.H., van Horssen, J., van Dam, A.-M., Gabius, H.-J., Baron, W. (2018). Galectin-4, a negative regulator of oligodendrocyte differentiation is persistently present in axons and microglia/macrophages in multiple sclerosis lesions. *J Neuropathol Exp Neurol.* 77, 1024-1038.

Kap, Y.S., Bus-Spoor, C., van Driel, N., Dubbelaar, M.L., Grit, C., Kooistra, S.M., Fagrouch, Z., Verschoor, E.J., Bauer, J., Eggen, B.J.L., Harmsen, H.J.M., Laman, J.D. and 't Hart, B.A. (2018). Targeted diet modification reduces multiple sclerosis-like disease in adult marmoset monkeys from an outbred colony. *J Immunol.* 201, 3229-3243.

Lentferink, D.H., Jongsma, J.M., Werkman, I. Baron, W. (2018). Grey matter OPCs are less mature and less sensitive to IFN  $\gamma$  than white matter OPCs: consequences for remyelination. *Sci Rep.* 8, 2113.

Oost, W., Talma, N., Meilof, J.F., Laman, J.D. (2018). Targeting senescence to delay progression of multiple sclerosis. *J Mol Med.* 96, 1153-1166.

Pegoretti, V., Baron, W., Laman, J.D., Eisel, U.L.M. (2018). Selective modulation of TNF-TNFRs signaling: Insights for multiple sclerosis treatment. *Front Immunol.* 9, 925.

Power, C., Laman, J.D., Branton, W. (2018) Misinterpretation of study data. *JAMA.* 76, 113.  
Sars, V., Prak, R.F., Hortobágyi, T., Zijdewind, I. (2018). Age- and sex-related differences in motor performance during sustained maximal voluntary contraction of the first dorsal interosseous. *Front Physiol.* 9, 637.

Sikkema, A.H., Stoffels, J. M., Wang, P., Basedow, F., Bulsink, R., Bajramovic, J., Baron, W. (2018). Fibronectin aggregates promote fates of a classically and alternatively activated phenotype in macrophages. *J Neuroinflammation* 15, 218.

Wang, P., Gorter, R.P., de Jonge J.C., Nazmuddin, M. Zhao, C., Amor, S., Hoekstra, D., Baron, W. (2018). MMP7 cleaves remyelination-imparing fibronectin aggregates and its expression is reduced in chronic multiple sclerosis lesions. *Glia* 66, 1625-1643.

Wittig, B.M., Sabat, R., Holzlöhner, P., Witte-Händel, E., Heilmann, K., Witte, K., Triebus, J., Tzankov, A., Laman, J.D., Bokemeyer, B., Terracciano, L., Schwärzler, C., Kohler, H., Volkmer, R., Loddenkemper, C., Wolk, K., Hoffmann, U., Günthert, U. (2018). Absence of specific alternatively spliced exon of CD44 in macrophages prevents colitis. *Mucosal Immunol.* 11, 846-860.

Yin, Z. Raj, D., Schaafsma, W., van der Heijden, R.A., Kooistra, S.M., Reijne, A.C., Zhang, X., Moser, J., Brouwer, N., Heeringa, P., Yi, C.X., van Dijk, G., Laman, J.D., Boddeke, E.W.G.M., Eggen, B.J. (2018). Low-fat diet with caloric restriction reduces white matter microglia activation during aging. *Front Mol Neurosci.* 11, 65.

## 2017

Dunham, J. van de Vis, R., Bauer, J., Wubben, J., van Driel, N., Laman, J.D., 't Hart, B.A., Kap, Y.S. (2017). Severe oxidative stress in acute inflammatory demyelinating model in the rhesus monkey. *PloS One* 12, 1-11.

Dunham, J., Bauer, J., van Driel, N., Lim, J.L., van der Pol, S.M.A., Laman, J.D., 't Hart, B.A., Lassmann, H., Mahad, D.D., Campbell, G.R., van Horssen, J., Kap, Y.S. (2017). Oxidative injury and iron redistribution are pathological hallmarks of marmoset experimental autoimmune encephalomyelitis. *J Neuropathol Exp Neurol.* 76, 467-478.

Dunham, J., van Driel, N., Eggen, B.J.L., Paul, C., 't Hart, B.A., Laman, J.D., Kap, Y.S. (2017). Analysis of the cross-talk between Epstein-Barr virus-infected B cells and T-cells in the marmoset. *Clin Transl Immunol* 6, e127.



Eggen, B.J.L., Boddeke, E.W.G.M., Kooistra, S.M. (2017). Regulation of microglia identity from an epigenetic and transcriptomic point of view. *Neuroscience*, 405, 3-13.

Espitia Pinzon, N., Brevé, J.P., Bol, J.G.J.M., Drukarch, B., Baron, W., van Dam, A.M. (2017). Tissue transglutaminase in astrocytes is enhanced by inflammatory mediators and is involved in the formation of fibronectin fibril-like structures. *J Neuroinflammation* 14, 260.

Espitia Pinzon, N., Sanz-Morello, B., Breve, J.J., Bol, Bol, J.G., Drukarch, B., Bauer, J., Baron, W., van Dam. A.M. (2017). Astrocyte-derived Transglutaminase affects fibronectin deposition, but not aggregation, during cuprizone-induced demyelination. *Sci Rep.* 7, 40995.

Galatro, T.F., Vainchtein, I.D., Brouwer, N., Boddeke, E.W.G.M., Eggen B.J.L. (2017). Isolation of microglia and immune infiltrates from mouse and primate central nervous system. *Methods Mol Biol.* 1559, 333-342.

Galatro, T.F., Holtman, I.R., Vainchtein, I.D., Brouwer, N., Sola, P., Veras, M. Pereira, T., Leite, R., Moller, T., Wes, P.D., Sogayar, M.C., Laman, J.D., den Dunnen, W., Pasqualucci, C.A., Oba-Shinjo, S.M., Boddeke, H.W.G.M., Marie, S.K.N., Eggen, B.J.L. (2017). The human microglia transcriptome and age-associated changes in actin dynamics and cell function. *Nat Neurosci.* 20, 1162-1171.

't Hart, B.A., Laman, J.D., Kap, Y.S. (2017). Reverse translation for assessment of confidence in animal models of multiple sclerosis for drug discovery. *Clin Pharmacol Ther.* 103, 262-270.

't Hart, B.A., Dunham, J., Faber, B., Laman, J.D., van Horssen, J., Bauer, J., Kap, Y.S. (2017). A B-cell driven pathway leading to pathological hallmarks of progressive MS in the marmoset EAE model. *Front Immunol* 8, 804.

't Hart, B.A., Laman, J.D., Kap, Y.S. Relevance of non-human primates in the translational research o human autoimmune disease, Book chapter, Springer, in press, 2017.

Holtman, I.R., Bsibsi, M., Gerritsen, W.H., Boddeke, H.W., Eggen, B.J., van der Valk, P., Kipp, M., van Noort, J.M., Amor, S. (2017). Identification of highly connected hub genes in the protective response program of human macrophages and microglia activated by alpha B-crystallin. *Glia* 65, 460-473.

Van den Hoogen, W.J., Laman, J.D., 't Hart, B.A. (2017). Modulation of multiple sclerosis and its animal model experimental autoimmune encephalomyelitis by food and gut microbiota. *Front Immunol.* 8, 1-24.

Severijns D, Zijdewind I, Dalgas U, Lamers I, Lismont C, Feys P (2017). The assessment of motor fatigability in persons with multiple sclerosis: A systematic review. *Neurorehabil Neural Repair* 31, 413-431.

Qin, J., Sikkema, A.H., van der Bij, K., de Jonge, J.C., Klappe, K., Nies, V., Jonker, J.W., Kok, J.W., Hoekstra, D., Baron, W. (2017). GD1a overcomes inhibition of myelination by fibronectin via activation of protein kinase A: implications for multiple sclerosis. *J Neurosci.* 37, 9925-9938.

Wlodarczyk, A., Holtman, I.R., Krueger, M., Yoge, N., Bruttger, J., Khorooshi, R., Benmamar-Badel, A., de Boer-Bergsma, J.J., Martin, N.A., Karram, K., Kramer, I., Boddeke, E.W., Waisman, A., Eggen, B.J., Owens, T. (2017). A novel microglia subset plays a key role in myelinogenesis in developing brain. *EMBO J.* 36, 3292-3308.

Wolf, S.A., Boddeke, H.W., Kettenmann, H. (2017). Microglia in physiology and disease. *Annu Rev Physiol.* 79, 619-643.

2016



Bello-Morales, R., Crespillo, A.J., Praena, B., Tabarés, E., Revilla, Y., García, E., Fraile-Ramos, A., Baron, W., Krummenacher, C., López-Guerrero, J.A. (2016). Role of proteolipid protein in HSV-1 entry in oligodendrocytic cells. *PLoS One*, e0147885.

Biber, K., Möller, T., Boddeke, E., Prinz, M. (2016). Central nervous system myeloid cells as drug targets: current status and translational challenges. *Nat Rev Drug Discov.* 15, 110-124.

Bijlard, M., de Jonge, J.C., Klunder, B., Nomden, A., Hoekstra, D., Baron, W. (2016). MAL is a regulator of the recruitment of myelin protein PLP to membrane microdomains. *PLoS One*, e0155317.

Bhattacharya, A., Biber, K. (2016). The microglial ATP-gated ion channel P2X7 as a CNS drug target. *Glia* 64, 1772-1787.

Branton, W.G., Lu, J.Q., Surette, M.G., Holt, R.A., Lind, J., Laman, J.D., Power, C. (2016). Brain microbiota disruption within inflammatory demyelinating lesions in multiple sclerosis. *Sci Rep.* 6, 37344.

Dunham, J., Lee, L.F., van Driel, N., Laman, J.D., Ni, I., Zhai, W., Tu, G.H., Lin, J.C., Bauer, J., 't Hart, B.A., Kap, Y.S. (2016). Blockade of CD127 exerts a dichotomous clinical effect in marmoset experimental autoimmune encephalomyelitis. *J Neuroimm Pharmacol.* 11, 73-83.

Drevets, D.A., Laman, J.D., Leenen, P.J.M. (2016). Immunology of central nervous system pathogens. In: Ratcliffe, M.J.H. (Editor in Chief), *Encyclopedia of Immunobiology* 4, 173–183. Oxford: Academic Press.

Engelhardt, B., Carare, R., Bechmann, I., Flügel, A., Laman, J.D., Weller, R.O. (2016). Vascular, glial and lymphatic gateways to neuroimmunology. *Acta Neuropathol.* 132, 317-338.

't Hart, B. A. (2016). Why does multiple sclerosis only affect human primates? *Mult Scler J.* 22, 559-563.  
't Hart, B.A., Kap, Y.S., Morandi, E., Laman, J.D., Gran, B. (2016). EBV infection and multiple sclerosis: lessons from a marmoset model. *Trends Mol Med.* 22, 1012-1024.

Hellwig, S., Brioschi, S., Dieni, S., Frings, L., Masuch, A., Blank, T., Biber, K. (2016) Altered microglia morphology and higher resilience to stress-induced depression-like behavior in CX3CR1-deficient mice. *Brain Behav Immun.* 55, 126-137.

Jagessar, S.A., Holtman, I.R., Hofman, S., Morandi, E., Heijmans, N., Laman, J.D., Gran, B., Faber, B., van Kasteren, S., Eggen, B.J., 't Hart, B.A. (2016). Lymphocryptovirus infection of non-human primate B cells converts destructive into productive processing of the pathogenic CD8 T cell epitope in myelin oligodendrocyte glycoprotein. *J Immunol.* 197, 1074-1088.

Janova, H., Böttcher, C., Holtman, I.R., Regen, T., van Rossum, D., Götz, A., Ernst, A.S., Fritsche, C., Gertig, U., Saiepour, N., Gronke, K., Wrzos, C., Ribes, S., Rolfs, S., Weinstein, J., Ehrenreich, H., Pukrop, T., Kopatz, J., Stadelmann, C., Salinas-Riester, G., Weber, M.S., Prinz, M., Brück, W., Eggen, B.J., Boddeke, H.W., Priller, J., Hanisch, U.K. (2016). CD14 is a key organizer of microglial responses to CNS infection and injury. *Glia* 64, 635-649.

Kap, Y. S., Jagessar, S.A., 't Hart, B.A. (2016). The common marmoset, an indispensable animal model for immunotherapy development in multiple sclerosis. *Drug Discov Today* 21, (8), 1200-1205.

Kramer, G.J., Wegdam, W., Donker-Koopman, W., Ottenhoff, R., Gaspar, P., Verhoek, M., Nelson, J., Gabriel, T., Kallemeijn, W., Boot, R.G., Laman, J.D., Vissers, J.P.C., Cox, T., Pavlova, E., Moran, M.T., Aerts, J.M., van Eijk, M. (2016). Elevation of glycoprotein nonmetastatic melanoma protein B in type 1 Gaucher disease patients and mouse models. *FEBS Open Bio.* 6, 902-913.

Laman, J.D., Kooistra, S.M., BE Clausen, B.E. Reproducibility issues: avoiding pitfalls in animal inflammation models. *Meth Mol Biol.* 1559, 1-17.



Multiple Sclerose  
Centrum  
Noord Nederland

Lim, J.L., van der Pol, S.M., Baron, W., McCord, J.M., de Vries, H.E., van Horssen, J. (2016). Protandim protects oligodendrocytes against an oxidative insult. *Antioxidants* 5, pii: E30.

van Luijn, M.M., van Meurs, M., Stoop, M.P., Verbraak, E., Wierenga-Wolf, A.F., Melief, M.J., Kreft, K.L., 't Hart, B.A., Luider, T.N., Laman, J.D., Hintzen, R.Q. (2016). Elevated expression of cerebrospinal fluid markers chromogranin A and clusterin by astrocytes in multiple sclerosis white matter lesions. *J Neuropathol Exp Neurol.* 75, 86-98.

Masuch, A., Shieh, C.H., van Rooijen, N., van Calker, D., Biber, K. (2016). Mechanism of microglia neuroprotection: Involvement of P2X7, TNF $\alpha$ , and valproic acid. *Glia* 64, 76-89.

Masuch, A., van der Pijl, R., Füner, L., Wolf, Y., Eggen, B., Boddeke, E., Biber, K. (2016). Microglia replenished OHSC: A culture system to study in vivo like adult microglia. *Glia* 64, 1285-1297.

Möller, T., Boddeke, H.W. (2016). Glial cells as drug targets: What does it take? *Glia* 64, 1742-1754.

Möller, T., Bard, F., Bhattacharya, A., Biber, K., Campbell, B., Dale, E., Eder, C., Gan, L., Garden, G.A., Hughes, Z.A., Pearse, D.D., Staal, R.G., Sayed, F.A., Wes, P.D., Boddeke, H.W. (2016). Critical data-based re-evaluation of minocycline as a putative specific microglia inhibitor. *Glia* 64, 1788-1794.

Oosterhof, N., Holtman, I.R., Kuil, L.E., van der Linde, H.C., Boddeke, E.W., Eggen, B.J., van Ham, T.J. (2016). Identification of a conserved and acute neurodegeneration-specific microglial transcriptome in the zebrafish. *Glia* 65 : 138-149.

Ozgen, H., Baron, W., Hoekstra, D., Kahya, N. (2016). Oligodendroglial membrane dynamics in relation to myelin biogenesis. *Cell Mol Life Sci.* 73, 3291-3310.

Peferoen, L.A., Breur, M., van de Berg, S., Peferoen-Baert, R., Boddeke, E.H., van der Valk, P., Pryce, G., van Noort, J.M., Baker, D., Amor, S. (2016). Ageing and recurrent episodes of neuroinflammation promote progressive experimental autoimmune encephalomyelitis in B10/ABH mice. *Immunology* 149, 146-156.

Peng, S.P., Copray, S. (2016). Comparison of human primary with human iPS cell-derived dopaminergic neuron grafts in the rat model for Parkinson's Disease. *Stem Cell Rev.* 12, 105-120.

Powers S.K., Lynch G.S., Murphy K.T., Reid M.B., Zijdewind I. (2016). Disease-induced skeletal muscle atrophy and fatigue. *Med Sci Sports Exerc.* 48, 2307-2319.

Pott, J.W., de Vries-Knoppert, W.A., Petzold, A. (2016). The prevalence of microcystic macular changes on optical coherence tomography of the macular region in optic nerve atrophy of non-neuritis origin: a prospective study. *Br J Ophthalmol.* 100, 216-221.

Safaiyan, S., Kannaiyan, N., Snaidero, N., Brioschi, S., Biber, K., Yona, S., Edinger, A.L., Jun, S., Rossner, M.J., Simons, M. (2016). Age-related myelin degradation burdens the clearance function of microglia during aging. *Nat Neurosci.* 19, 995-998.

Scheffold, A., Holtzman, I.R., Dieni, S., Brouwer, N., Katz, S.F., Jebaraj, B.M., Kahle, P.J., Hengerer, B., Lechel, A., Stilgenbauer, S., Boddeke, H.W., Eggen, B.J., Rudolph, K.L., Biber, K. (2016). Telomere shortening leads to an acceleration of synucleinopathy and impaired microglia response in a genetic mouse model. *Acta Neuropathol Commun.* 4, 87.

Sellner, S., Paricio-Montesinos, R., Spiess, A., Masuch, A., Ern, D., Harsan, L.A., Elverfeldt, D.V., Schwabenland, M., Biber, K., Staszewski, O., Lira, S., Jung, S., Prinz, M., Blank, T. (2016). Microglial CX3CR1 promotes adult neurogenesis by inhibiting Sirt 1/p65 signaling independent of CX3CL1. *Acta Neuropathol Commun.* 4, 102.



Multiple Sclerose  
Centrum  
Noord Nederland

Serchov, T., Heumann R., van Calker, D., Biber, K. (2016) Signaling pathways regulating Homer1a expression: implications for antidepressant therapy. *Biol Chem.* 397, 207-214.

Thiruvalluvan, A., Czepiel, M., Kap, Y.A., Mantingh-Otter, I., Vainchtein, I., Kuipers, J., Bijlard, M., Baron, W., Giepmans, B., Brück, W., 't Hart, B.A., Boddeke, E., Copray, S. (2016). Survival and functionality of human induced pluripotent stem cell-derived oligodendrocytes in a nonhuman primate model for multiple sclerosis. *Stem Cells Transl Med.*, pii: sctm.2016-0024.

Wattjes, M.P., Wijburg, M.T., Vennegoor, A., Witte, B.I., de Vos, M., Richert, N.D., Uitdehaag, B.M., Barkhof, F., Killestein, J; Dutch-Belgian Natalizumab-associated PML study group. (2016). MRI characteristics of early PML-IRIS after natalizumab treatment in patients with MS. *J Neurol Neurosurg Psychiatry.* 87, 879-884.

Wes, P.D., Holtman, I.R., Boddeke, E.W., Möller, T., Eggen, B.J. (2016). Next generation transcriptomics and genomics elucidate biological complexity of microglia in health and disease. *Glia* 64, 197-213.

Wolkorte, R., Heersema, D.J., Zijdewind, I. (2016). Reduced voluntary activation during brief and sustained contractions of a hand muscle in secondary-progressive multiple sclerosis patients. *Neurorehabil Neural Repair* 30, 307-316.

Zijdewind, I., Prak, R.F., Wolkorte, R. (2016) Fatigue and fatigability in persons with multiple sclerosis. *Exerc Sport Sci Rev.* 44, 123-128.

## 2015

Bijlard, M., Klunder, B., de Jonge, J.C., Nomden, A., Tyagi, S., de Vries, H., Hoekstra, D., Baron, W. (2015). Transcriptional expression of myelin basic protein in oligodendrocytes depends on functional syntaxin 4: a potential correlation with autocrine signaling. *Mol Cell Biol.* 35, 675-687.

Baron, W., Ozgen, H., Klunder, B., de Jonge, J.C., Nomden, A., Plat, A., Trifilieff, E., de Vries, H., Hoekstra, D. (2015). The major myelin-resident protein PLP is transported to myelin membranes via a transcytotic mechanism: involvement of sulfatide. *Mol Cell Biol.* 35, 288-302.

Czepiel, M., Boddeke, E., Copray, S. (2015). Human oligodendrocytes in remyelination research. *Glia* 63, 513-530.

Doorn, K.J., Brevé, J.J., Drukarch, B., Boddeke, H.W., Huitinga, I., Lucassen, P.J., van Dam, A.M. (2015). Brain region-specific gene expression profiles in freshly isolated rat microglia. *Front Cell Neurosci.* 9, 84.

Gavelova, M., Nagyova, I., Rosenberger, J., Krokavcova, M., Gdovinova, Z., Groothoff, J.W., van Dijk, J.P. (2015). Importance of an individual's evaluation of functional status for health-related quality of life in patients with multiple sclerosis. *Disabil Health J.* 8, 372-379.

Goldmann, T., Zeller, N., Raasch, J., Kierdorf, K., Frenzel, K., Ketscher, L., Basters, A., Staszewski, O., Brendecke, S.M., Spiess, A., Tay, T.L., Kreutz, C., Timmer, J., Mancini, G.M., Blank, T., Fritz, G., Biber, K., Lang, R., Malo, D., Merkler, D., Heikenwälder, M., Knobeloch, K.P., Prinz, M. (2015). USP18 lack in microglia causes destructive interferonopathy of the mouse brain. *EMBO J.* 34, 1612-1629.

Haanstra, K.G., Dijkman, K., Bashir, N., Bauer, J., Mary, C., Poirier, N., Baker, P., Scobie, L., 't Hart, B.A., Vanhove, B. (2015). Selective blockade of CD28-mediated T cell costimulation protects rhesus monkeys against acute fatal experimental encephalomyelitis. *J Immunol.* 194, 1454-1466.

't Hart, B. A., Kooyk, Y., Geurts, J.J., Gran, B. (2015). The primate autoimmune encephalomyelitis model; a bridge between mouse and man. *Ann Clin Transl Neurol.* 2, 581-593.



Hellwig, S., Masuch, A., Nestel, S., Katzmarski, N., Meyer-Luehmann, M., Biber, K. (2015) Forebrain microglia from wild-type but not adult 5xFAD mice prevent amyloid- $\beta$  plaque formation in organotypic hippocampal slice cultures. *Sci Rep.* 5:14624.

Holtman, I.R., Raj, D.D., Miller, J.A., Schaafsma, W., Yin, Z., Brouwer, N., Wes, PD., Möller, T., Orre, M., Kamphuis, W., Hol, E.M., Boddeke, E.W., Eggen, B.J. (2015). Induction of a common microglia gene expression signature by aging and neurodegenerative conditions: a co-expression meta-analysis. *Acta Neuropathol Commun.* 3,31.

Holtman, I.R., Noback, M., Bijlsma, M., Duong, K.N., van der Geest, M.A., Ketelaar, P.T., Brouwer, N., Vainchtein, I.D., Eggen, B.J., Boddeke, H.W. (2015). Glia Open Access Database (GOAD): A comprehensive gene expression encyclopedia of glia cells in health and disease. *Glia* 63, 1495-1506.

Jagessar, S. A., Heijmans, N., Blezer, E.L., Bauer, J., Weissert, R., 't Hart, B.A. (2015). Immune profile of an atypical EAE model in marmoset monkeys immunized with recombinant human myelin oligodendrocyte glycoprotein in incomplete Freund's adjuvant. *J Neuroinflammation* 12, 169.

Mikula, P., Nagyova, I., Krokavcova, M., Vitkova, M., Rosenberger, J., Szilasiova, J., Gdovinova, Z., Groothoff, J.W., van Dijk, J.P. (2015). Social participation and health-related quality of life in people with multiple sclerosis. *Disabil Health J.* 8, 29-34.

Oosterhof, N., Boddeke, E., van Ham, T.J. (2015). Immune cell dynamics in the CNS: Learning from the zebrafish. *Glia* 63, 719-735.

Powell, J.J., Thomas-McKay, E., Thoree, V., Robertson, J., Hewitt, R.E., Skepper, J.N., Brown, A., Hernandez-Garrido, J.C., Midgley, P.A., Gomez-Morilla, I., Grime, G.W., Kirkby, K.J., Mabbott, N.A., Donaldson, D.S., Williams, I.R., Rios, D., Girardin, S.E., Haas, C.T., Bruggraber, S., Laman, J.D., Tanriver, Y., Lombardi, G., Lechner, R., Thompson, R.P.H., Pele, L.C. (2015). An endogenous nanomineral chaperones luminal antigen and peptidoglycan to intestinal immune cells. *Nat Nanotechnol.* 10, 361-369.

Raj, D.D., Moser, J., van der Pol, S.M., van Os, R.P., Holtman, I.R., Brouwer, N., Oeseburg, H., Schaafsma, W., Wesseling, E.M., den Dunnen, W., Biber, K.P., de Vries, H.E., Eggen, B.J., Boddeke, H.W. (2015). Enhanced microglial pro-inflammatory response to lipopolysaccharide correlates with brain infiltration and blood-brain barrier dysregulation in a mouse model of telomere shortening. *Aging Cell* 14, 1003-1013.

Schaafsma, W., Zhang, X., van Zomeren, K.C., Jacobs, S., Georgieva, P.B., Wolf, S.A., Kettenmann, H., Janova, H., Saiepour, N., Hanisch, U.K., Meerlo, P., van den Elsen, P.J., Brouwer, N., Boddeke, H.W., Eggen, B. J. (2015). Long-lasting pro-inflammatory suppression of microglia by LPS-preconditioning is mediated by RelB-dependent epigenetic silencing. *Brain Behav Immun.* 48, 205-221.

Serchov, T., Clement, H.W., Schwarz, M.K., Lasevoli, F., Tosh, D.K., Idzko, M., Jacobson, K.A., de Bartolomeis, A., Normann, C., Biber, K., van Calker, D. (2015). Increased signaling via Adenosine A1 receptors, sleep deprivation, imipramine, and ketamine inhibit depressive-like behavior via induction of Homer1a. *Neuron* 87, 549-562.

Stoffels, J.M.J., Hoekstra, D., Franklin, R.J.M., Baron, W., Zhao, C. (2015). The EIIIA domain from astrocyte-derived fibronectin mediates proliferation of oligodendrocyte progenitor cells following CNS demyelination. *Glia* 63, 242-256.

Vanheusden, M., Stinissen, P., 't Hart, B.A., Hellings, N. (2015). Cytomegalovirus: a culprit or protector in multiple sclerosis? *Trends Mol Med.* 21, 16-23.

Wolkorte, R., Heersema, D.J., Zijdewind, I. (2015). Reduced dual-task performance in MS patients is further decreased by muscle fatigue. *Neurorehabil Neural Repair* 29, 424-435.



Wolkotte, R., Heersema, D.J., Zijdewind, I. (2015). Muscle fatigability during a sustained index finger abduction and depression scores are associated with perceived fatigue in patients with relapsing-remitting multiple sclerosis. *Neurorehabil Neural Repair* 29, 796-802.

## 2014

Baron, W., Bijlard, M., Nomden, A., de Jonge, J.C., Teunissen, C.E., Hoekstra, D. (2014). Sulfatide-mediated control of extracellular matrix-dependent oligodendrocyte maturation. *Glia* 62, 927-942.  
Biber, K., Boddeke, E. (2014). Neuronal CC chemokines: the distinct roles of CCL21 and CCL2 in neuropathic pain. *Front Cell Neurosci.* 8, 210.

Biber, K., Owens, T., Boddeke, E. (2014). What is microglia neurotoxicity (not)? *Glia* 62, 841-854.

Cambron, M., Mostert, J., Haentjens, P., D'Hooghe, M., Nagels, G., Willekens, B., Heersema, D., Debruyne, J., Van Hecke, W., Algoed, L., De Klippe, N., Fosselle, E., Laureys, G., Merckx, H., Van Wijmeersch, B., Vanopdenbosch, L., Verhagen, W., Hupperts, R., Hengstman, G., Michiels, V., Van Merhaegen-Wieleman, A., De Keyser, J. (2014). Fluoxetine in progressive multiple sclerosis (FLUOX-PMS): study protocol for a randomized controlled trial. *Trials* 15, 37.

Espitia Pinzon, N., Stroo, E., 't Hart, B.A., Bol, J.G., Drukarch, B., Bauer, J., van Dam, A.M. (2014). Tissue Transglutaminase in marmoset experimental multiple sclerosis: Discrepancy between white and grey Matter. *PLoS One* 9, e100574.

Garcia-Vallejo, J. J., Ilarregui, J.M., Kalay, H., Chamorro, S., Koning, N., Unger, W.W., Ambrosini, M., Montserrat, V., Fernandes, R.J., Bruijns, S.C., van Weering, J.R., Paauw, N.J., O'Toole, T., van Horssen, J., van der Valk, P., Nazmi, K., Bolscher, J.G., Bajramovic, J., Dijkstra, C.D., 't Hart, B.A., van Kooyk, Y. (2014). CNS myelin induces regulatory functions of DC-SIGN-expressing, antigen-presenting cells via cognate interaction with MOG. *J Exp Med.* 211, 1465-1483.

't Hart, B.A., Copray, S., Philippens, I. (2014). Apocynin, a low molecular oral treatment for neurodegenerative disease. Special issue on neurodegeneration: Etiologies and new therapies. *Biomed Res Int.* 2014, 298020.

't Hart, B. A., Jagessar, S.A., Kap, Y.S., Haanstra, K.G., Philippens, H.C.H.M., Serguera, C., Langermans, J.A., Vierboom, M. (2014). Improvement of preclinical animal models for autoimmune-mediated disorders via reverse translation of failed therapies. *Drug Discov Today* 19, 1394-1401.

Ozgen, H., Kahya, N., de Jonge, J.C., Smith, G.S., Harauz, G., Hoekstra, D., Baron, W. (2014). Regulation of cell proliferation by nucleocytoplasmic dynamics of postnatal and embryonic exon-II-containing MBP isoforms. *Biochim Biophys Acta* 1843, 517-530.

Ozgen, H., Schrimpf, W., Hendrix, J., de Jonge, J.C., Lamb, D.C., Hoekstra, D., Kahya, N., Baron, W. (2014). The lateral membrane organization and dynamics of myelin proteins PLP and MBP are dictated by distinct galactolipids and the extracellular matrix. *PLoS One* 9, e101834.

de Paula Faria, D., de Vries, E.F., Sijbesma, J.W., Dierckx, R.A., Buchpiguel, C.A., Copray, S. (2014). PET imaging of demyelination and remyelination in the cuprizone mouse model for multiple sclerosis: a comparison between [11C]CIC and [11C]MeDAS. *Neuroimage* 87, 395-402.

van Pelt, E.D., Neuteboom, R.F., Ketelslegers, I.A., Boon, M., Catsman-Berrevoets, C.E., Hintzen, R.Q. (2014). Dutch Study Group for Paediatric MS. Application of the 2012 revised diagnostic definitions for paediatric multiple sclerosis and immune-mediated central nervous system demyelination disorders. *J Neurol Neurosurg Psychiatry* 85, 790-794.

Raj, D.D., Jaarsma, D., Holtman, I.R., Olah, M., Ferreira, F.M., Schaafsma, W., Brouwer, N., Meijer, M.M., de Waard, M.C., van der Pluijm, I., Brand, R., Kreft, K.L., Laman, J.D., de Haan, G., Biber, K.P., Hoeijmakers, J.H., Eggen, B.J., Boddeke, H.W. (2014). Priming of microglia in a DNA-repair deficient model of accelerated aging. *Neurobiol Aging* 35, 2147-2160.



Vitkova, M., Gdovinova, Z., Rosenberger, J., Szilasiova, J., Nagyová, I., Mikula, P., Krokavcova, M., Groothoff, J.W., van Dijk, J.P. (2014). Factors associated with poor sleep quality in patients with multiple sclerosis differ by disease duration. *Disabil Health J.* 7, 466-471.

Vos, M.J., Mijnhout, G.S., Rondeel, J.M., Baron, W., Groeneveld, P.H. (2014). Sex hormone binding globulin deficiency due to a homozygous missense mutation. *J Clin Endocrinol Metab.* 99, E1798-17802.

Vainchtein, I.D., Vinet, J., Brouwer, N. Brendecke, S., Biagini, G., Biber, K., Boddeke, H.W., Eggen, B.J. (2014). In acute experimental autoimmune encephalomyelitis, infiltrating macrophages are immune activated, whereas microglia remain immune suppressed. *Glia* 62, 1724-35.

## 2013

Bhat, K.P., Balasubramaniyan, V., Vaillant, B., Ezhilarasan, R., Hummelink, K., Hollingsworth, F., Wani, K., Heathcock, L., James, J.D., Goodman, L.D., Conroy, S., Long, L., Lelic, N., Wang, S., Gumin, J., Raj, D., Kodama, Y., Raghunathan, A., Olar, A., Joshi, K., Pelloski, C.E., Heimberger, A., Kim, S.H., Cahill, D.P., Rao, G., Den Dunnen, W.F., Boddeke, H.W., Phillips, H.S., Nakano, I., Lang, F.F., Colman, H., Sulman, E.P., Aldape, K. (2013). Mesenchymal differentiation mediated by NF- $\kappa$ B promotes radiation resistance in glioblastoma. *Cancer Cell* 24, 331-346.

Bsibsi, M., Holtman, I.R., Gerritsen, W.H., Eggen, B.J., Boddeke, E., van der Valk, P., van Noort, J.M., Amor, S. (2013). Alpha-B-crystallin induces an immune-regulatory and antiviral microglial response in preactive multiple sclerosis lesions. *J Neuropathol Exp Neurol.* 72, 970-979.

Eggen, B.J., Raj, D., Hanisch, U.K., Boddeke, H.W. (2013). Microglial phenotype and adaptation. *J Neuroimmune Pharmacol.* 8, 807-823.

't Hart, B.A., Jagessar, S.A., Haanstra, K., Verschoor, E., Laman, J.D., Kap, Y.S. (2013). The primate EAE model points at EBV-infected B cells as a preferential therapy target in multiple sclerosis. *Front Immunol.* 4: 145.

Kannan, V., Brouwer, N., Hanisch, U.K., Regen, T., Eggen, B.J., Boddeke, H.W. (2013). Histone deacetylase inhibitors suppress immune activation in primary mouse microglia. *J Neurosci Res.* 91, 1133-1142.

Mostert, J., Heersema, T., Mahajan, M., Van Der Grond, J., Van Buchem, M.A., De Keyser, J. (2013). The effect of fluoxetine on progression in progressive multiple sclerosis: a double-blind, randomized, placebo-controlled trial. *ISRN Neurol.* 2, 370943.

Steen, C., D'haeseleer, M., Hoogduin, J.M., Fierens, Y., Cambron, M., Mostert, J.P., Heersema, D.J., Koch, M.W., De Keyser, J. (2013). Cerebral white matter blood flow and energy metabolism in multiple sclerosis. *Mult Scler.* 19, 1282-1289.

Stoffels, J.M., Zhao, C., Baron, W. (2013). Fibronectin in tissue regeneration: timely disassembly of the scaffold is necessary to complete the build. *Cell Mol Life Sci.* 70, 4243-4253.

Stoffels, J.M., de Jonge, J.C., Stancic, M., Nomden, A., van Strien, M.E., Ma, D., Sisková, Z., Maier, O., ffrench-Constant, C., Franklin, R.J., Hoekstra, D., Zhao, C., Baron, W. (2013). Fibronectin aggregation in multiple sclerosis lesions impairs remyelination. *Brain* 136, 116-131.

Vinet, J., van Zwam, M., Dijkstra, I.M., Brouwer, N., van Weering, H.R., Watts, A., Meijer, M., Fokkens, M.R., Kannan, V., Verzijl, D., Vischer, H.F., Smit, M.J., Leurs, R., Biber, K., Boddeke, H.W. (2013). Inhibition of CXCR3-mediated chemotaxis by the human chemokine receptor-like protein CCX-CKR. *Br J Pharmacol.* 168, 1375-1387.



## 2012

Bsibsi, M., Nomden, A., van Noort, J.M., Baron, W. (2012). Toll-like receptors 2 and 3 agonists differentially affect oligodendrocyte survival, differentiation, and myelin membrane formation. *J Neurosci Res.* 90, 388-398.

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. *Prog Neurobiol.* 98, 222-238.

Krabbe, G., Matyash, V., Pannasch, U., Mamer, L., Boddeke, H.W., Kettenmann, H. (2012). Activation of serotonin receptors promotes microglial injury-induced motility but attenuates phagocytic activity. *Brain Behav Immun.* 26, 419-428.

Olah, M., Amor, S., Brouwer, N., Vinet, J., Eggen, B., Biber, K., Boddeke, H.W. (2012). Identification of a microglia phenotype supportive of remyelination. *Glia* 60, 306-321.

Moidunny, S., Vinet, J., Wesseling, E., Bijzet, J., Shieh, C.H., van IJzendoorn, S.C., Bezzi, P., Boddeke, H.W., Biber, K. (2012). Adenosine A2B receptor-mediated leukemia inhibitory factor release from astrocytes protects cortical neurons against excitotoxicity. *J Neuroinflammation* 9, 198.

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

Scheffel, J., Regen, T., Van Rossum, D., Seifert, S., Ribes, S., Nau, R., Parsa, R., Harris, R.A., Boddeke, H.W., Chuang, H.N., Pukrop, T., Wessels, J.T., Jürgens, T., Merkler, D., Brück, W., Schnaars, M., Simons, M., Kettenmann, H., Hanisch, U.K. (2012). Toll-like receptor activation reveals developmental reorganization and unmasks responder subsets of microglia. *Glia* 60, 1930-1943.

Sher, F., Amor, S., Gerritsen, W., Baker, D., Jackson, S.L., Boddeke, E., Copray, S. (2012). Intraventricularly injected Olig2-NSCs attenuate established relapsing-remitting EAE in mice. *Cell Transplant.* 21, 1883-1897.

Stancic, M., Slijepcevic, D., Nomden, A., Vos, M.J., de Jonge, J.C., Sikkema, A.H., Gabius, H.J., Hoekstra, D., Baron, W. (2012). Galectin-4, a novel neuronal regulator of myelination. *Glia* 60, 919-935. Steens, A., Heersema, D.J., Maurits, N.M., Renken, R.J., Zijdewind, I. (2012). Mechanisms underlying muscle fatigue differ between multiple sclerosis patients and controls: a combined electrophysiological and neuroimaging study. *Neuroimage* 59, 3110-3118.

Steens, A., de Vries, A., Hemmen, J., Heersema, T., Heerings, M., Maurits, N., Zijdewind, I. (2012). Fatigue perceived by multiple sclerosis patients is associated with muscle fatigue. *Neurorehabil Neural Repair* 26, 48-57.

Vinet, J., Weering, H.R., Heinrich, A., Kälin, R.E., Wegner, A., Brouwer, N., Heppner, F.L., Rooijen, N.V., Boddeke, H.W., Biber, K. (2012). Neuroprotective function for ramified microglia in hippocampal excitotoxicity. *J Neuroinflammation* 9, 27.

Wynia, K., van Wijlen, A.T., Middel, B., Reijneveld, S.A., Meilof, J.F. (2012). Change in disability profile and quality of life in multiple sclerosis patients: a five-year longitudinal study using the Multiple Sclerosis Impact Profile (MSIP). *Mult Scler.* 18, 654-661

## 2011

Olah, M., Biber, K., Vinet, J., Boddeke, H.W. (2011). Microglia phenotype diversity. *CNS Neurol Disord Drug Targets* 10, 108-118.

Stanic, M., van Horssen, J., Thijssen, V.L., Gabius, H.J., van der Valk, P., Hoekstra, D., Baron, W. (2011). Increased expression of distinct galectins in multiple sclerosis lesions. *Neuropathol Appl Neurobiol.* 37, 654-671.



Yurlova, L., Kahya, N., Aggarwal, S., Kaiser, H.J., Chiantia, S., Bakhti, M. Pewzner-Jung, Y., Ben-David, O., Futerman, A. H., Brugger, B., Simons, M. (2011). Self-aggregation of myelin membrane lipids in model membranes. *Biophys J.* 101, 2713-2720.

Van Strien, M.E., Baron, W., Bakker, E.N., Bauer, J., Bol, J.G., Brevé, J.J., Binnekade, R., Van Der Laarse, W.J., Drukarch, B., Van Dam, A.M. (2011). Tissue transglutaminase activity is involved in the differentiation of oligodendrocyte precursor cells into myelin-forming oligodendrocytes during CNS remyelination. *Glia* 59, 1622-1634.

van Weering, H.R., Boddeke, H.W., Vinet, J., Brouwer, N., de Haas, A.H., van Rooijen, N., Thomsen, A.R., Biber, K.P. (2011). CXCL10/CXCR3 signaling in glia cells differentially affects NMDA-induced cell death in CA and DG neurons of the mouse hippocampus. *Hippocampus* 21, 220-232.

Vereyken, E.J., Heijnen, P.D., Baron, W., de Vries, E.H., Dijkstra, C.D., Teunissen, C.E. (2011). Classically and alternatively activated bone marrow derived macrophages differ in cytoskeletal functions and migration towards specific CNS cell types. *J Neuroinflammation* 8, 58.

## 2010

Baron, W., Hoekstra, D. (2010). On the biogenesis of myelin membranes: sorting, trafficking and cell polarity. *FEBS Lett.* 584, 1760-70.

Kahya, N. (2010). Light on fluorescent lipids in rafts: a lesson from model membranes. *Biochem J.* 430, e7-9.

Kahya, N. (2010). Protein-protein and protein-lipid interactions in domain-assembly: lessons from giant unilamellar vesicles. *Biochem Biophys Acta* 1798, 1392-1398.

Moidunny, S., Dias, R.B., Wesseling, E., Sekino, Y., Boddeke, H.W., Sebastião, A.M., Biber, K. (2010). Interleukin-6-type cytokines in neuroprotection and neuromodulation: oncostatin M, but not leukemia inhibitory factor, requires neuronal adenosine A1 receptor function. *J Neurochem.* 114, 1667-1677.

Mostert, J.P., Koch, M.W., Steen, C., Heersema, D.J., De Groot, J.C., De Keyser, J. (2010). T2 lesions and rate of progression of disability in multiple sclerosis. *Eur J Neurol.* 17, 1471-1475.

Neuteboom, R.F., Ketelslegers, I.A., Boon, M., Catsman-Berrevoets C.E, Hintzen, R.Q.; Dutch Study Group on Childhood Multiple Sclerosis and Acute Disseminated Encephalomyelitis. (2010). Barkhof magnetic resonance imaging criteria predict early relapse in pediatric multiple sclerosis. *Pediatr Neurol.* 42, 53-55.

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, e10811.

van Weering, H.R., de Jong, A.P., de Haas, A.H., Biber, K.P., Boddeke, H.W. (2010). CCL21-induced calcium transients and proliferation in primary mouse astrocytes: CXCR3-dependent and independent responses. *Brain Behav Immun.* 24, 768-775.

Vinet, J., de Jong, E.K., Boddeke, H.W., Stanulovic, V., Brouwer, N., Granic, I., Eisel, U.L., Liem, R.S., Biber, K. (2010). Expression of CXCL10 in cultured cortical neurons. *J Neurochem.* 112, 703-714.

Wynia, K., Annema, C., Nissen, H., De Keyser, J., Middel, B. (2010). Design of a Randomised Controlled Trial (RCT) on the effectiveness of a Dutch patient advocacy case management intervention among severely disabled Multiple Sclerosis patients. *BMC Health Serv Res.* 10, 142.

## 2009



Keimpema, E., Fokkens, M.R., Nagy, Z., Agoston, V., Luiten, P.G., Nyakas, C., Boddeke, H.W., Copray, J.C. (2009). Early transient presence of implanted bone marrow stem cells reduces lesion size after cerebral ischaemia in adult rats. *Neuropathol Appl Neurobiol.* 35, 89-102.

Koch, M., Mostert, J., Heerings, M., Uyttenboogaart, M., De Keyser, J. (2009). Fatigue, depression and disability accumulation in multiple sclerosis: a cross-sectional study. *Eur J Neurol.* 16, 348-352.

Koch, M., Uyttenboogaart, M., Heersema, D., Steen, C., De Keyser, J. (2009). Parity and secondary progression in multiple sclerosis. *J Neurol Neurosurg Psychiatry* 80, 676-678.

Koch, M.W., Polman, S.K., Uyttenboogaart, M., De Keyser, J. (2009). Treatment of seizures in multiple sclerosis. *Cochrane Database Syst Rev.*, CD007150.

Maier, O., De Jonge, J., Nomden, A., Hoekstra, D., Baron, W. (2009). Lovastatin induces the formation of abnormal myelin-like membrane sheets in primary oligodendrocytes. *Glia* 57, 402-413.

Meilof, J.F., Hylkema, M.N. (2009). The Lancet and advertorials. *Lancet* 373, 1004; author reply 1004-5. Erratum in: *Lancet* 373, 1848.

Olah, M., Ping, G., De Haas, A.H., Brouwer, N., Meerlo, P., Van Der Zee, E.A., Biber, K., Boddeke, H.W. (2009). Enhanced hippocampal neurogenesis in the absence of microglia T cell interaction and microglia activation in the murine running wheel model. *Glia* 57, 1046-1061.

Ramsaransing, G.S., Mellem, S.A., De Keyser, J. (2009). Dietary patterns in clinical subtypes of multiple sclerosis: an exploratory study. *Nutr J.* 8, 36.

Sher, F., van Dam, G., Boddeke, E., Copray, S. (2009). Bioluminescence imaging of Olig2-neural stem cells reveals improved engraftment in a demyelination mouse model. *Stem Cells* 27, 1582-1591.

Sisková, Z., Yong, V.W., Nomden, A., van Strien, M., Hoekstra, D., Baron, W. (2009). Fibronectin attenuates process outgrowth in oligodendrocytes by mislocalizing MMP-9 activity, *Mol Cell Neurosci.* 42, 234-242.

Wynia, K., Middel, B., De Ruiter, H., Van Dijk, J.P., Lok, W.S., De Keyser, J.H., Reijneveld, S.A. (2009). Adding a subjective dimension to an ICF-based disability measure for people with multiple sclerosis: development and use of a measure for perception of disabilities. *Disabil Rehabil.* 31, 1008-1017.

## 2008

Biber, K., Vinet, J., Boddeke, H.W. (2008). Neuron-microglia signaling: chemokines as versatile messengers. *J Neuroimmunol.* 198, 69-74.

Chesik, D., Wilczak, N., De Keyser, J. (2008). IGF-1 regulates cAMP levels in astrocytes through a beta2-adrenergic receptor-dependent mechanism. *Int J Med Sci.* 5, 240-243.

de Haas, A.H., Boddeke, H.W., Biber, K. (2008). Region-specific expression of immunoregulatory proteins on microglia in the healthy CNS. *Glia* 56, 888-894.

de Jong, E.K., de Haas, A.H., Brouwer, N., van Weering, H.R., Hensens, M., Bechmann, I., Pratley, P., Wesseling, E., Boddeke, H.W., Biber, K. (2008). Expression of CXCL4 in microglia in vitro and in vivo and its possible signaling through CXCR3. *J Neurochem.* 105, 1726-1736.

de Jong, E.K., Vinet, J., Stanulovic, V.S., Meijer, M., Wesseling, E., Sjollema, K., Boddeke, H.W., Biber, K. (2008). Expression, transport, and axonal sorting of neuronal CCL21 in large dense-core vesicles. *FASEB J.* 22, 4136-4145.



Multiple Sclerose  
Centrum  
Noord Nederland

Koch, M., Mostert, J., Arutjunyan, A., Stepanov, M., Teelken, A., Heersema, D., De Keyser, J. (2008). Peripheral blood leukocyte NO production and oxidative stress in multiple sclerosis. *Mult Scler.* 14, 159-165.

Klunder, B., Baron, W., Schrage, C., de Jonge, J., de Vries, H., Hoekstra, D. (2008). Sorting signals and regulation of cognate basolateral trafficking in myelin biogenesis. *J Neurosci Res.* 86, 1007-1016.

Koch, M., De Keyser, J., Tremlett, H. (2008). Timing of birth and disease progression in multiple sclerosis. *Mult Scler.* 14, 793-798.

Koch, M., Uyttenboogaart, M., Heerings, M., Heersema, D., Mostert, J., De Keyser, J. (2008). Progression in familial and nonfamilial MS. *Mult Scler.* 14, 300-306.

Koch, M., Uyttenboogaart, M., Polman, S., De Keyser, J. (2008). Seizures in multiple sclerosis. *Epilepsia.* 49, 948-953.

Koch, M., Uyttenboogaart, M., van Harten, A., De Keyser, J. (2008). Factors associated with the risk of secondary progression in multiple sclerosis. *Mult Scler.* 14, 799-803.

Koch, M., Uyttenboogaart, M., van Harten, A., Heerings, M., De Keyser, J. (2008). Fatigue, depression and progression in multiple sclerosis. *Mult Scler.* 14, 815-822.

Maier, O., Hoekstra, D., Baron, W. (2008). Polarity development in oligodendrocytes: sorting and trafficking of myelin components. *J Mol Neurosci.* 35, 35-53.

Mostert, J.P., Admiraal-Behloul, F., Hoogduin, J.M., Luyendijk, J., Heersema, D.J., van Buchem, M.A., De Keyser, J. (2008). Effects of fluoxetine on disease activity in relapsing multiple sclerosis: a double-blind, placebo-controlled, exploratory study. *J Neurol Neurosurg Psychiatry* 79, 1027-1031.

Mostert, J.P., Blaauw, Y., Koch, M.W., Kuiper, A.J., Hoogduin, J.M., De Keyser, J. (2008). Reproducibility over a 1-month period of 1H-MR spectroscopic imaging NAA/Cr ratios in clinically stable multiple sclerosis patients. *Eur Radiol.* 18, 1736-1740.

Mostert, J.P., Koch, M.W., Heerings, M., Heersema, D.J., De Keyser, J. (2008). Therapeutic potential of fluoxetine in neurological disorders. *CNS Neurosci Ther Summer* 14, 153-64.

Sher, F., Balasubramaniyan, V., Boddeke, E., Copray, S. (2008). Oligodendrocyte differentiation and implantation: new insights for remyelinating cell therapy. *Curr Opin Neurol.* 31, 607-14.

Wilczak, N., Chesik, D., Hoekstra, D., De Keyser, J. (2008). IGF binding protein alterations on periplaque oligodendrocytes in multiple sclerosis: implications for remyelination. *Neurochem Int.* 52, 1431-1435.

Wynia, K., Middel, B., de Ruiter, H., van Dijk, J.P., de Keyser, J.H., Reijneveld, S.A. (2008). Stability and relative validity of the Multiple Sclerosis Impact Profile (MSIP). *Disabil Rehabil.* 30, 1027-1038.

Wynia, K., Middel, B., van Dijk, J.P., De Keyser, J.H., Reijneveld, S.A. (2008). The impact of disabilities on quality of life in people with multiple sclerosis. *Mult Scler.* 14, 972-980.

Wynia, K., Middel, B., van Dijk, J.P., de Ruiter, H., de Keyser, J., Reijneveld, S.A. (2008). The Multiple Sclerosis Impact Profile (MSIP). Development and testing psychometric properties of an ICF-based health measure. *Disabil Rehabil.* 30, 261-274.

## 2007

Biber, K., Neumann, H., Inoue, K., Boddeke, H.W. (2007). Neuronal 'On' and 'Off' signals control microglia. *Trends Neurosci.* 30, 596-602.



Chesik, D., De Keyser, J., Wilczak, N. (2007). Insulin-like growth factor binding protein-2 as a regulator of IGF actions in CNS: implications in multiple sclerosis. *Cytokine Growth Factor Rev.* 18, 267-278.

Chesik, D., Glazenburg, L., De Keyser, J., Wilczak, N. (2007). Enhanced proliferation of astrocytes from beta(2)-adrenergic receptor knockout mice is influenced by the IGF system. *J Neurochem.* 100, 1555-1564.

Chesik, D., Wilczak, N., De Keyser, J. (2007). The insulin-like growth factor system in multiple sclerosis. *Int Rev Neurobiol.* 79, 203-26.

de Haas, A.H., Boddeke, H.W., Brouwer, N., Biber, K. (2007). Optimized isolation enables ex vivo analysis of microglia from various central nervous system regions. *Glia* 55, 1374-1384.

de Haas, A.H., van Weering, H.R., de Jong, E.K., Boddeke, H.W., Biber, K.P. (2007). Neuronal chemokines: versatile messengers in central nervous system cell interaction. *Mol Neurobiol.* 36, 137-151.

Koch, M., Mostert, J., Arutjunyan, A.V., Stepanov, M., Teelken, A., Heersema, D., De Keyser, J. (2007). Plasma lipid peroxidation and progression of disability in multiple sclerosis. *Eur J Neurol.* 14, 529-533.

Koch, M., Heersema, D., Mostert, J., Teelken, A., De Keyser, J. (2007). Cerebrospinal fluid oligoclonal bands and progression of disability in multiple sclerosis. *Eur J Neurol.* 14, 797-800.

Koch, M., Mostert, J., Heersema, D., De Keyser, J. (2007). Progression in multiple sclerosis: further evidence of an age dependent process. *J Neurol Sci.* 255, 35-41.

Koch, M., Mostert, J., Heersema, D., Teelken, A., De Keyser, J. (2007). Plasma S100beta and NSE levels and progression in multiple sclerosis. *J Neurol Sci.* 252, 154-158.

Koch, M., van Harten, A., Uyttenboogaart, M., De Keyser, J. (2007). Cigarette smoking and progression in multiple sclerosis. *Neurology* 69, 1515-1520.

Maier, O., Baron, W., Hoekstra, D. (2007). Reduced raft-association of NF155 in active MS-lesions is accompanied by the disruption of the paranodal junction. *Glia* 55, 885-895.

Mostert, J.P., de Groot, J.C., Ramsaransing, G.S., Koch, M.W., De Keyser, J. (2007). Relationship between the extent of T2 lesions and the onset of secondary progression in multiple sclerosis. *Eur J Neurol.* 14, 1210-1215.

Ramsaransing, G.S., De Keyser, J. (2007). Predictive value of clinical characteristics for 'benign' multiple sclerosis. *Eur J Neurol.* 14, 885-889.

Sanders, P., De Keyser, J. (2007). Janus faces of microglia in multiple sclerosis. *Brain Res Rev.* 54 274-285.

Sips, G.J., Chesik, D., Glazenburg, L., Wilschut, J., De Keyser, J., Wilczak, N. (2007). Involvement of morbilliviruses in the pathogenesis of demyelinating disease. *Rev Med Virol.* 17, 223-244.

## 2006

Baarsen van, L.G., Pouw van der Kraan, T.C., Kragt, J.J., Baggen, J.M., Rustenburg, F., Hooper, T., Meilof, J.F., Fero, M.J., Dijkstra, C.D., Polman, C.H., Verweij, C.L. (2006). A subtype of multiple sclerosis defined by an activated immune defense program. *Genes Immun.* 7, 522-531.

Chesik, D., De Keyser, J., Glazenburg, L., Wilczak, N. (2006). Insulin-like growth factor binding proteins: regulation in chronic active plaques in multiple sclerosis and functional analysis of glial cells. *Eur J Neurosci.* 24, 1645-1652.



Copray, S., Balasubramaniyan, V., Levenga, J., de Brujin, J., Liem, R., Boddeke, E. (2006). Olig2 overexpression induces the in vitro differentiation of neural stem cells into mature oligodendrocytes. *Stem Cells.* 24, 1001-1010.

Dijkstra, I.M., de Haas, A.H., Brouwer, N., Boddeke, H.W., Biber, K. (2006). Challenge with innate and protein antigens induces CCR7 expression by microglia in vitro and in vivo. *Glia.* 54, 861-872.

Gielen, E., Baron, W., Vandeven, M., Steels, P., Hoekstra, D., Ameloot, M. (2006). Rafts in oligodendrocytes: evidence and structure-function relationship. *Glia.* 54, 499-512.

Koch, M., De Keyser, J. (2006). Irreversible neurological worsening following high-dose corticosteroids in advanced progressive multiple sclerosis. *Clin Neuropharmacol.* 29, 18-19.

Koch, M., De Keyser, J. (2006). Uric acid in multiple sclerosis. *Neurol Res.* 28, 316-319.

Koch, M., Ramsaransing, G.S., Arutjunyan, A.V., Stepanov, M., Teelken, A., Heersema, D.J., De Keyser, J. (2006). Oxidative stress in serum and peripheral blood leukocytes in patients with different disease courses of multiple sclerosis. *J Neurol.* 253, 483-487.

Koch, M., Ramsaransing, G.S., Fokkema, M.R., Heersema, D.J., De Keyser, J. (2006). Erythrocyte membrane fatty acids in benign and progressive forms of multiple sclerosis. *J Neurol Sci.* 244, 123-126.

Kuipers, H.F., Rappert, A.A., Mommaas, A.M., van Haastert, E.S., van der Valk, P., Boddeke, H.W., Biber, K.P., van den Elsen, P.J. (2006). Simvastatin affects cell motility and actin cytoskeleton distribution of microglia. *Glia* 53, 115-123.

Küst, B., Mantingh-Otter, I., Boddeke, E., Copray, S. (2006). Deficient p75 low-affinity neurotrophin receptor expression does alter the composition of cellular infiltrate in experimental autoimmune encephalomyelitis in C57BL/6 mice. *J Neuroimmunol.* 174, 92-100.

Maier, O., van der Heide, T., Johnson, R., de Vries, H., Baron, W., Hoekstra, D. (2006). The function of neurofascin 155 in oligodendrocytes is regulated by metalloprotease-mediated cleavage and ectodomain shedding. *Exp Cell Res.* 312, 500-511.

Meeteren van, M.E., Baron, W., Beermann, C., Dijkstra, C.D., van Tol, E.A. (2006). Polyunsaturated fatty acid supplementation stimulates differentiation of oligodendroglia cells. *Dev Neurosci.* 28, 196-208.

Mostert, J.P., Sijens, P.E., Oudkerk, M., De Keyser, J. (2006). Fluoxetine increases cerebral white matter NAA/Cr ratio in patients with multiple sclerosis. *Neurosci Lett.* 402, 22-24.

Noort van, J.M., Verbeek, R., Meilof, J.F., Polman, C.H., Amor, S. (2006). Autoantibodies against alpha B-crystallin, a candidate autoantigen in multiple sclerosis, are part of a normal human immune repertoire. *Mult Scler.* 12, 287-293.

Ramsaransing, G.S., De Keyser, J. (2006). Benign course in multiple sclerosis: a review. *Acta Neurol Scand.* 113, 359-369.

Ramsaransing, G.S., Fokkema, M.R., Teelken, A., Arutjunyan, A.V., Koch, M., De Keyser, J. (2006). Plasma homocysteine levels in multiple sclerosis. *J Neurol Neurosurg Psychiatry.* 77, 189-192.

Šíšková, Z., Baron, W., de Vries, H., Hoekstra, D. (2006). Fibronectin impedes "myelin" sheet-directed flow in oligodendrocytes: a role for a beta 1 integrin-mediated PKC signalling pathway in vesicular trafficking. *Mol Cell Neurosci.* 33, 150-159.

Vanderlocht J., Hellings, N. Hendriks, J.J., Vandenabeele, F., Moreels, M., Buntinx, M., Hoekstra, D., Antel, J.P., Stinissen, P. (2006). Leukemia inhibitory factor is produced by myelin-reactive T cells from multiple sclerosis patients and protects against tumor necrosis factor-alpha-induced oligodendrocyte apoptosis. *J Neurosci Res.* 83, 763-774.



Wynia, K., Middel, B., Van Dijk, J.P., De Ruiter, H., Lok, W.H., De Keyser, J., Reijneveld, S.A. (2006). Broadening the scope on health problems among the chronically neurologically ill with the International Classification of Functioning (ICF). *Disabil Rehabil.* 28, 1445-1454.

Zeinstra, E., Wilczak, N., Chesik, D., Glazenburg, L., Kroese, F.G., De Keyser, J. (2006). Simvastatin inhibits interferon-gamma-induced MHC class II up-regulation in cultured astrocytes. *J Neuroinflammation* 3, 16.

Zeinstra, E.M., Wilczak, N., Wilschut, J.C., Glazenburg, L., Chesik, D., Kroese, F.G., De Keyser, J. (2006). 5HT4 agonists inhibit interferon-gamma-induced MHC class II and B7 costimulatory molecules expression on cultured astrocytes. *J Neuroimmunol.* 179, 191-195.

## 2005

Baron, W., Colognato, H., ffrench-Constant, C. (2005). Integrin-growth factor interactions as regulators of oligodendroglial development. *Glia* 49, 467-479.

de Jong, E.K., Dijkstra, I.M., Hensens, M., Brouwer, N., van Amerongen, M., Liem, R.S., Boddeke, H.W., Biber, K. (2005). Vesicle-mediated transport and release of CCL21 in endangered neurons: a possible explanation for microglia activation remote from a primary lesion. *J Neurosci.* 17;25, 7548-7557.

Maier, O., van der Heide, T., van Dam, A.M., Baron, W., de Vries, H., Hoekstra, D. (2005). Alteration of the extracellular matrix interferes with raft association of neurofascin in oligodendrocytes. Potential significance for multiple sclerosis? *Mol Cell Neurosci.* 28, 390-401.

Mostert, J.P., Ramsaransing, G.S., Heersema, D.J., Heerings, M., Wilczak, N., De Keyser, J. (2005). Serum uric acid levels and leukocyte nitric oxide production in multiple sclerosis patients outside relapses. *J Neurol Sci.* 231, 41-44.

Ramsaransing, G.S., Heersema, D.J., De Keyser, J. (2005). Serum uric acid, dehydroepiandrosterone sulphate, and apolipoprotein E genotype in benign vs. progressive multiple sclerosis. *Eur J Neurol.* 12, 514-518.

Wesselius, T., Heersema, D.J., Mostert, J.P., Heerings, M., Admiraal-Behloul, F., Talebian, A., van Buchem, M.A., De Keyser, J. (2005). A randomized crossover study of bee sting therapy for multiple sclerosis. *Neurology* 65, 1764-1768.

Wilczak, N., Ramsaransing, G.S., Mostert, J., Chesik, D., De Keyser, J. (2005). Serum levels of insulin-like growth factor-1 and insulin-like growth factor binding protein-3 in relapsing and primary progressive multiple sclerosis. *Mult Scler.* 11, 13-15.

## 2004

Boon, M., Nolte, I.M., De Keyser, J., Buys, C.H., te Meerman, G.J. (2004). Inheritance mode of multiple sclerosis: the effect of HLA class II alleles is stronger than additive. (2004). *Hum Genet.* 115, 280-284.

Brouwer, N., Zuurman, M.W., Wei, T., Ransohoff, R.M., Boddeke, H.W., Biber, K. (2004). Induction of glial L-CCR mRNA expression in spinal cord and brain in experimental autoimmune encephalomyelitis. *Glia* 46, 84-94.

Chesik, D., De Keyser, J., Wilczak, N. (2004). Involvement of insulin-like growth factor binding protein-2 in activated microglia as assessed in post mortem human brain. *Neurosci Lett.* 362, 14-16.

Copray, S., Küst, B., Emmer, B., Lin, M.Y., Liem, R., Amor, S., de Vries, H., Floris, S., Boddeke, E. (2004). Deficient p75 low-affinity neurotrophin receptor expression exacerbates experimental allergic encephalomyelitis in C57/BL6 mice. *J Neuroimmunol.* 148, 41-53.



Decker, L., Baron, W., ffrench-Constant, C. (2004). Lipid rafts: microenvironments for integrin-growth factor interactions in neural development. *Biochem Soc Trans.* 32, 426-430.

De Keyser, J., Zeinstra, E., Mostert, J., Wilczak, N. (2004). Beta 2-adrenoceptor involvement in inflammatory demyelination and axonal degeneration in multiple sclerosis. *Trends Pharmacol Sci.* 25, 67-71.

De Keyser, J., Zeinstra, E., Wilczak, N. (2004). Astrocytic beta2-adrenergic receptors and multiple sclerosis. *Neurobiol Dis.* 15, 331-339.

Dijkstra, I.M., Hulshof, S., van der Valk, P., Boddeke, H.W., Biber, K. (2004). Cutting edge: activity of human adult microglia in response to CC chemokine ligand 21. *J Immunol.* 172, 2744-2747.

Floris, S., Goes van der, A., Killestein, J., Knol, D.L., Barkhof, F., Polman, C.H., Dijkstra, C.D., de Vries, H.E., Meilof, J.F. (2004). Monocyte activation and disease activity in multiple sclerosis. A longitudinal analysis of serum MRP8/14 levels. *J Neuroimmunol.* 148, 172-177.

Geeraedts, F., Wilczak, N., van Binnendijk, R., De Keyser, J. (2004). Search for morbillivirus proteins in multiple sclerosis brain tissue. *Neuroreport* 15, 27-32.

Ramsaransing, G.S., Teelken, A., Arutjunyan, A.V., De Keyser, J. (2004). Peripheral blood leukocyte NO production in MS patients with a benign vs progressive course. *Neurology* 62, 239-242.

Rappert, A., Bechmann, I., Pivneva, T., Mahlo, J., Biber, K., Nolte, C., Kovac, A.D., Gerard, C., Boddeke, H.W., Nitsch, R., Kettenmann, H. (2004). CXCR3-dependent microglial recruitment is essential for dendrite loss after brain lesion. *J Neurosci.* 24, 8500-8509.

Wittendorp, M.C., Boddeke, H.W., Biber, K. (2004). Adenosine A3 receptor-induced CCL2 synthesis in cultured mouse astrocytes. *Glia* 46, 410-418.

## 2003

Baron, W., Decker, L., Colognato, H., ffrench-Constant, C. (2003). Regulation of integrin growth factor interactions in oligodendrocytes by lipid raft microdomains. *Curr. Biol.* 13, 151-155.

De Keyser, J., Zeinstra, E., Frohman, E. (2003). Are astrocytes central players in the pathophysiology of multiple sclerosis? *Arch Neurol.* 60, 132-136.

Kuhl, N.M., Hoekstra, D. de Vries, H., de Keyser, J. (2003). Insulin-like growth factor-binding protein 6 inhibits survival and differentiation of rat oligodendrocyte precursor cells. *Glia* 44, 91-101.

Ramsaransing, G., Teelken, A., Prokopenko, V.M., Arutjunyan, A.V., De Keyser, J. (2003). Low leucocyte myeloperoxidase activity in patients with multiple sclerosis. *J Neurol Neurosurg Psychiatry* 74, 953-955.

Zeinstra, E., Wilczak, N., De Keyser, J. (2003). Reactive astrocytes in chronic active lesions of multiple sclerosis express co-stimulatory molecules B7-1 and B7-2. *J Neuroimmunol.* 135, 166-171.

Zuurman, M.W., Heeroma, J., Brouwer, N., Boddeke, H.W., Biber, K. (2003). LPS-induced expression of a novel chemokine receptor (L-CCR) in mouse glial cells in vitro and in vivo. *Glia* 41, 327-336.

## 2002

Baron, W., Shattil, S.J., ffrench-Constant, C. (2002). The oligodendrocyte precursor mitogen PDGF stimulates proliferation by activation of  $\alpha\beta\gamma$  integrins. *EMBO J.* 21, 1957-1966.

Biber, K., Dijkstra, I., Trebst, C., De Groot, C.J., Ransohoff, R.M., Boddeke, H.W. (2002). Functional expression of CXCR3 in cultured mouse and human astrocytes and microglia. *Neuroscience* 112, 487-497.



Biber, K., Rappert, A., Kettenmann, H., Brouwer, N., Copray, S.C., Boddeke, H.W. (2002). Neuronal SLC (CCL21) expression: implications for the neuron-microglial signaling system. Ernst Schering Res Found Workshop 39, 45-60.

Colognato, H., Baron, W., Avellana-Adaiod, V., Relvas, J.B., Baron-van Evercooren, A., Georges-Labouesse, E., ffrench-Constant, C. (2002). CNS integrins switch growth factor signalling to promote target-dependent survival. Nat Cell Biol. 4, 833-841.

Killestein, J., Rep, M.H., Meilof, J.F., Adèr, H.J., Uitdehaag, B.M., Barkhof, F., Lier van, R.A., Polman, C.H. (2002). Seasonal variation in immune measurements and MRI markers of disease activity in MS. Neurology 58, 1077-1080.

Kuhl, N.M., de Keyser J., de Vries, H., Hoekstra, D. (2002). Insulin-like growth factor binding proteins-1 and -2 differentially inhibit rat oligodendrocyte precursor cell survival and differentiation in vitro. J Neurosci Res. 69, 207-216.

Rappert, A., Biber, K., Nolte, C., Lipp, M., Schubel, A., Lu, B., Gerard, N.P., Gerard, C., Boddeke, H.W., Kettenmann, H. (2002). Secondary lymphoid tissue chemokine (CCL21) activates CXCR3 to trigger a Cl<sup>-</sup> current and chemotaxis in murine microglia. J Immunol. 168, 3221-3226.

Zeinstra, E., te Riele, P., Langlois, X., Wilczak, N., Leysen, J., de Keyser, J. (2002). Aminergic receptors in astrogliotic plaques from patients with multiple sclerosis. Neurosci Lett. 331, 87-90.

Zorgdrager, A., De Keyser, J. (2002). The premenstrual period and exacerbations in multiple sclerosis. Eur Neurol. 48, 204-206.

## 2001

Beenakker, E.A., Oparina, T.I., Hartgring, A., Teelken, A., Arutjunyan, A.V., De Keyser, J. (2001). Cooling garment treatment in MS: clinical improvement and decrease in leukocyte NO production. Neurology 57, 892-894.

Biber, K., Sauter, A., Brouwer, N., Copray, S.C., Boddeke, H.W. (2001) Ischemia-induced neuronal expression of the microglia attracting chemokine Secondary Lymphoid-tissue Chemokine (SLC). Glia 34, 121-133.

Boon, M., Nolte, I.M., Bruinenberg, M., Spijker, G.T., Terpstra, P., Raelson, J., De Keyser, J., Zwanikken, C.P., Hulsbeek, M., Hofstra, R.M., Buys, C.H., te Meerman, G.J. (2001). Mapping of a susceptibility gene for multiple sclerosis to the 51 kb interval between G511525 and D6S1666 using a new method of haplotype sharing analysis. Neurogenetics 3, 221-230.

De Keyser, J., Wilczak, N., Walter, J.H., Zurbriggen, A. (2001). Disappearance of beta2-adrenergic receptors on astrocytes in canine distemper encephalitis: possible implications for the pathogenesis of multiple sclerosis. Neuroreport 12, 191-194.

Gebicke-Haerter, P.J., Spleiss, O., Ren, L.Q., Li, H., Dichmann, S., Norgauer, J., Boddeke, H.W. (2001). Microglial chemokines and chemokine receptors. Prog Brain Res. 132, 525-532.

Killestein, J., Kalkers, N.F., Meilof, J.F., Barkhof, F., van Lier, R.A., Polman, C.H. (2001). TNFalpha production by CD4(+) T cells predicts long-term increase in lesion load on MRI in MS. Neurology 57, 1129-1131.

Meilof, J.F. (2001). The use and abuse of correlation coefficients. Arch Neurol. 58, 833-834.  
Ramsaransing, G., Maurits, N., Zwanikken, C., De Keyser, J. (2001). Early prediction of a benign course of multiple sclerosis on clinical grounds: a systematic review. Mult Scler. 7, 345-347.

Relvas, J.B., Setzu, A., Baron, W., Buttery, P.C., LaFlamme, S.E., Franklin, R.J., and ffrench-Constant, C. (2001). Expression of dominant-negative and chimeric subunits reveals an essential role for beta 1 integrin during myelination. Curr Biol. 11, 1039-1043.



## 2000

Baron, W., Metz, B., De Vries, H., Hoekstra, D. (2000). PDGF and FGF-2 signaling in oligodendrocyte progenitor cells: regulation of proliferation activity and differentiation by multiple intracellular signaling pathways. *Mol Cell Neurosci.* 15, 314-329.

Baron, W., de Jonge, J.C., de Vries, H., Hoekstra, D. (2000). Perturbation of myelination by activating distinct signalling pathways: an in vitro study in a myelinating culture from fetal rat brain. *J Neurosci Res.* 59, 74-85.

de Vries, H., Hoekstra, D. (2000). On the biogenesis of the myelin sheath: cognate polarized trafficking pathways in oligodendrocytes. *Glycoconj J.* 17, 181-190.

Meilof, J.F., Uitdehaag, B.M., (2000). Pravastatin therapy and the risk of stroke. *N Engl J Med.* 343, 1895; author reply 1895-6.

Ramsaransing, G., Zwanikken, C., De Keyser, J. (2000). Worsening of symptoms of multiple sclerosis associated with carbamazepine. *BMJ.* 320, 1113.

Wilczak, N., De Bleser, P., Luiten, P., Geerts, A., Teelken, A., De Keyser, J. (2000). Insulin-like growth factor II receptors in human brain and their absence in astrogliotic plaques in multiple sclerosis. *Brain Res.* 863, 282-288.

Zeinstra, E., Wilczak, N., De Keyser, J. (2000). [3H]dihydroalprenolol binding to beta adrenergic receptors in multiple sclerosis brain. *Neurosci Lett.* 289, 75-77.

Zeinstra, E., Wilczak, N., Streefland, C., De Keyser, J. (2000). Astrocytes in chronic active multiple sclerosis plaques express MHC class II molecules. *Neuroreport* 11, 89-91.

## 1999

Baron, W., De Vries, E.J., De Vries, H., Hoekstra, D. (1999). Protein kinase C prevents oligodendrocyte differentiation: modulation of actin cytoskeleton and cognate polarized membrane traffic. *J Neurobiol.* 41, 385-398.

Biber, K., Laurie, D.J., Berthele, A., Sommer, B., Tölle, T.R., Gebicke-Härter, P.J., van Calker, D., Boddeke, H.W. (1999). Expression and signaling of group I metabotropic glutamate receptors in astrocytes and microglia. *J Neurochem.* 72, 1671-1680.

Boddeke, E.W., Meigel, I., Frentzel, S., Biber, K., Renn, L.Q., Gebicke-Härter, P. (1999). Functional expression of the fractalkine (CX3C) receptor and its regulation by lipopolysaccharide in rat microglia. *Eur J Pharmacol.* 374, 309-313.

Boddeke, E.W., Meigel, I., Frentzel, S., Gourmala, N.G., Harrison, J.K., Buttini, M., Spleiss, O., Gebicke-Härter, P. (1999). Cultured rat microglia express functional beta-chemokine receptors. *J Neuroimmunol.* 98, 176-184.

De Keyser, J., Schaaf, M., Teelken, A. (1999). Peptidylarginine deiminase activity in postmortem white matter of patients with multiple sclerosis. *Neurosci Lett.* 260, 74-76.

De Keyser, J., Wilczak, N., Leta, R., Streetland, C. (1999). Astrocytes in multiple sclerosis lack beta-2 adrenergic receptors. *Neurology* 53, 1628-1633.

De Keyser, J., Zwanikken, C.M., Zorgdrager, A., Oenema, D., Boon, M. (1999). Treatment of acute relapses in multiple sclerosis at home with oral dexamethasone: a pilot study. *J Clin Neurosci.* 6, 382-384.



Gourmala, N.G., Limonta, S., Bochelen, D., Sauter, A., Boddeke, H.W. (1999). Localization of macrophage inflammatory protein: macrophage inflammatory protein-1 expression in rat brain after peripheral administration of lipopolysaccharide and focal cerebral ischemia. *Neuroscience* 88, 1255-1266.

### 1998

Baron, W., De Jonge, J.C., De Vries, H., Hoekstra, D. (1998). Regulation of oligodendrocyte differentiation: Protein kinase C activation prevents differentiation of O2A progenitor cells towards oligodendrocytes. *Glia* 22, 121-129.

De Keyser, J., Zwanikken, C., Boon, M.. (1998). Effects of influenza vaccination and influenza illness on exacerbations in multiple sclerosis. *J Neurol Sci.* 159, 51-53.

Haar van der, M.E., Visser, H.W., de Vries, H., Hoekstra, D. (1998). Transport of proteolipid protein to the plasma membrane does not depend on glycosphingolipid cotransport in oligodendrocyte cultures. *J Neurosci Res.* 51, 371-381.

Ren, L.Q., Gourmala, N., Boddeke, H.W., Gebicke-Haerter, P.J. (1998). Lipopolysaccharide-induced expression of IP-10 mRNA in rat brain and in cultured rat astrocytes and microglia. *Brain Res Mol Brain Res.* 59, 256-263.

Spleiss, O., Appel, K., Boddeke, H.W., Berger, M., Gebicke-Haerter, P.J. (1998). Molecular biology of microglia cytokine and chemokine receptors and microglial activation. *Life Sci.* 62, 1707-1710.

Spleiss, O., Gourmala, N., Boddeke, H.W., Sauter, A., Fiebich, B.L., Berger, M., Gebicke-Haerter, P.J. (1998). Cloning of rat HIV-1-chemokine coreceptor CKR5 from microglia and upregulation of its mRNA in ischemic and endotoxinemic rat brain. *J Neurosci Res.* 53, 16-28.

de Vries, H., Schrage, C., Hoekstra D. (1998). An apical-type trafficking pathway is present in cultured oligodendrocytes but the sphingolipid-enriched myelin membrane is the target of a basolateral-type pathway. *Mol Biol Cell.* 9, 599-609.

Wilczak, N., Schaaf, M., Bredewold, R., Streefland, C., Teelken, A., De Keyser, J. (1998). Insulin-like growth factor system in serum and cerebrospinal fluid in patients with multiple sclerosis. *Neurosci Lett.* 257, 168-170.

### 1997

Buttini, M., Mir, A., Appel, K., Wiederhold, K.H., Limonta, S., Gebicke-Haerter, P.J., Boddeke, H.W. (1997). Lipopolysaccharide induces expression of tumour necrosis factor alpha in rat brain: inhibition by methylprednisolone and by rolipram. *Br J Pharmacol.* 122, 1483-1489.

Gourmala, N.G., Buttini, M., Limonta, S., Sauter, A., Boddeke, H.W. (1997). Differential and time-dependent expression of monocyte chemoattractant protein-1 mRNA by astrocytes and macrophages in rat brain: effects of ischemia and peripheral lipopolysaccharide administration. *J Neuroimmunol.* 74, 35-44.

Küst, B., Buttini, M., Sauter, A., Boddeke, H.W., Gebicke-Haerter, P.J. (1997). K(+)-channels and cytokines as markers for microglial activation. *Adv Exp Med Biol.* 429, 109-117.

Vries de, H., de Jonge, J.C., Schrage, C., van der Haar, M.E., Hoekstra, D. (1997). Differential and cell development-dependent localization of myelin mRNAs in oligodendrocytes. *J Neurosci Res.* 47, 479-488.

Wilczak, N., De Keyser, J. (1997). Insulin-like growth factor-I receptors in normal appearing white matter and chronic plaques in multiple sclerosis. *Brain Res.* 772, 243-246.



Zorgdrager, A., De Keyser, J. (1997). Menstrually related worsening of symptoms in multiple sclerosis. *J Neurol Sci.* 149, 95-97.

#### 1996

Buttini, M., Appel, K., Sauter, A., Gebicke-Haerter, P.J., Boddeke, H.W. (1996). Expression of tumor necrosis factor alpha after focal cerebral ischaemia in the rat. *Neuroscience* 71, 1-16.

Buttini, M., Limonta, S., Boddeke, H.W. (1996). Peripheral administration of lipopolysaccharide induces activation of microglial cells in rat brain. *Neurochem Int.* 29, 25-35.

Trooster, W.J., Teelken, A.W., Gerrits, P.O., Lijnema, T.H., Loof, J.G., Minderhoud, J.M., Nieuwenhuis, P. (1996). The effect of gonadectomy on the clinical course of chronic experimental allergic encephalomyelitis. *Clin Neurol Neurosurg.* 98, 222-226.

#### 1995

Buttini, M., Boddeke, H. (1995). Peripheral lipopolysaccharide stimulation induces interleukin-1 beta messenger RNA in rat brain microglial cells. *Neuroscience* 65, 523-530.

Jansen, H.M., Willemse, A.T., Sinnige, L.G., Paans, A.M., Hew, J.M., Franssen, E.J., Zorgdrager, A.M., Pruij, J., Minderhoud, J.M., Korf, J. (1995). Cobalt-55 positron emission tomography in relapsing-progressive multiple sclerosis. *J Neurol Sci.* 132, 139-45.

Joosten, A.A., Jansen, H.M., Piers, D.A., Minderhoud, J.M., Korf, J. (1995). Cobalt-57 SPET in relapsing-progressive multiple sclerosis: a pilot study. *Nucl Med Commun.* 16, 703-705.

Sinnige, L.G., Teeuwissen, E., Hew, J.M., Minderhoud, J.M. (1995). Correlation between magnetic resonance imaging and clinical parameters in multiple sclerosis. *Acta Neurol Scand.* 91, 188-191.

#### 1994

Beest ter, M.B., Hoekstra, K., Sein, A., Hoekstra, D. (1994). Reconstitution of proteolipid protein: some properties and its role in interlamellar attachement. *Biochem J.* 300, 545-552.

Minderhoud, J.M. (1994). On the pathogenesis of multiple sclerosis. A revised model of the cause(s) of multiple sclerosis, especially based on epidemiological data. *Clin Neurol Neurosurg.* 96, 135-42.

#### 1993

Beest ter, M.B., Hoekstra, D. (1993). Interaction of myelin basic protein with artificial membranes. Parameters governing binding and aggregation and dissociation. *Eur. J. Biochem.* 211, 689-696.

de Vries, H., Schrage, C., Hoekstra, K., Kok, J.W., van der Haar, M.E., Kalicharan, D., Liem, R.S., Copray, J.C., Hoekstra, D. (1993). Outstations of the Golgi complex are present in the processes of cultured rat oligodendrocytes. *J Neurosci Res.* 36, 336-343.

#### 1992

Minderhoud, J.M., Mooyaart, E.L., Kamman, R.L., Teelken, A.W., Hoogstraten, M.C., Vencken, L.M., Gravenmade, E.J., van den Burg, W. (1992). In vivo phosphorus magnetic resonance spectroscopy in multiple sclerosis. *Arch Neurol.* 49, 161-165.

#### 1990

Hoogstraten, M.C., Minderhoud, J.M. (1990). Long-term effect of ACTH treatment of relapse in multiple sclerosis. *Acta Neurol Scand.* 82, 74-77.

#### 1988

Hoogstraten, M.C., van der Ploeg, R.J., van der Burg, W., Vreeling, A., van Marle, S., Minderhoud, J.M. (1988). Tizanidine versus baclofen in the treatment of spasticity in multiple sclerosis patients. *Acta Neurol Scand.* 77, 224-230.



Multiple Sclerose  
Centrum  
Noord Nederland

Minderhoud, J.M., Prange, A.J., Luyckx, G.J. (1988). A long-term double-blind controlled study on the effect of azathioprine in the treatment of multiple sclerosis. Clin Neurol Neurosurg. 90, 25-28.

Minderhoud, J.M., van der Hoeven, J.H., Prange, A.J. (1988). Course and prognosis of chronic progressive multiple sclerosis. Results of an epidemiological study. Acta Neurol Scand. 78, 10-15.

### 1987

Hoogstraten, M.C., Cats, A., Minderhoud, J.M. (1987). Bed rest and ACTH in the treatment of exacerbations in multiple sclerosis patients. Acta Neurol Scand. 76, 346-350.