Kristel Sleegers

Neurodegenerative Brain Diseases Group
Department of Molecular Genetics, VIB
University of Antwerp

MD, University of Leiden, The Netherlands 1999
MSc in Genetic Epidemiology, Erasmus University Rotterdam, The Netherlands 2003
PhD, Erasmus University Rotterdam, The Netherlands 2004

Current position:
Senior Staff Scientist at VIB Department of Molecular Genetics
Assistant Professor in Genetic Neuroepidemiology at University of Antwerp
Team Leader Alzheimer's Disease

E-mail: kristel.sleegers@molgen.vib-ua.be
Phone +32 (0) 3 265 1032

Current Project Members
Postdoctoral Researcher: Karolien Bettens
Predoctoral Researchers: Rita Cacace, Elise Cuyvers, Caroline Van Cauwenberghe
Technical staff: Jasper Van Dongen, Steven Vermeulen

Keywords
Genetic Epidemiology – Biostatistics - Complex Genetic Traits - Alzheimer's disease – Cognition

Science
With my work I aim to contribute to a better understanding of the genetic etiology of complex forms of Alzheimer dementia and related neurodegenerative diseases, by means of genetic-epidemiological and molecular genetic techniques. My focus lies on identifying molecular mechanisms that can serve as future targets for early detection, prevention and treatment. Techniques include high-throughput association studies (both genome-wide and focused on biological pathways) on disease endpoints as well as intermediate and endophenotypes, but also ultra high-throughput sequencing to identify rare variants, and gene dosage studies to identify copy number variants associated with neurodegeneration. I am interested to integrate different lines of approach, e.g. by finding converging evidence from genetics and proteomics in the same individuals, or to translate genetic findings into biomarkers for disease. The availability of a well-characterized study population with an extensive biobank facilitates this work. In addition I aim to identify genetic factors that modify onset age, to find novel targets for treatment, to delay or prevent the pathological cascade leading to neurodegeneration.

Selected Publications

Brouwers N, Cauwenberghe CV, Engelborghs S, Lambert JC, Bettens K, Bastard NL, Pasquier F, Montoya AG, Peeters K, Mattheijssens M, Vandenberghe R, Deyn PP, Cruts M, Amouyel P, **Sleegers K**, Van Broeckhoven C. Alzheimer risk associated with

a copy number variation in the complement receptor 1 increasing C3b/C4b binding sites. Molecular Psychiatry 17(2):223-33 (2012) (PMID: 21403675)

Sleegers K, Cruts M, Van Broeckhoven C. Molecular Pathways of Frontotemporal Lobar Degeneration. Annual Reviews Neuroscience 33:71-88 (2010) (PMID: 20415586)

Sleegers K, Lambert JC, Bertram L, Cruts M, Amouyel P, Van Broeckhoven C. The pursuit of susceptibility genes for Alzheimer's disease: progress and prospects. Trends in Genetics 26(2):84-93 (2010) (PMID: 20080314)

Sleegers K, Brouwers N, Van Damme P, Engelborghs S, Gijselinck I, van der Zee J, Peeters K, Mattheijssens M, Cruts M, Vandenberghe R, De Deyn PP, Robberecht W, Van Broeckhoven C. Serum biomarker for progranulin-associated frontotemporal lobar degeneration. Annals of Neurology 65(5):603-9 (2009) (PMID:19288468)

Brouwers N, Nuytemans K, van der Zee J, Gijselinck I, Engelborghs S, Theuns J, Kumar-Singh S, Pickut B, Pals P, Dermaut B, Bogaerts V, De Pooter T, Serneels S, Van den Broeck M, Cuijt I, Mattheijssens M, Peeters K, Sciot R, Martin J-J, Cras P, Santens P, Vandenberghe R, De Deyn P, Cruts M, Van Broeckhoven C, **Sleegers K**. Alzheimer and Parkinson Diagnoses in Progranulin Null Mutation Carriers in an Extended Founder Family. Archives of Neurology 64(10): 1436-1446 (2007) (PMID: 17923627)

Sleegers K, Brouwers N, Gijselinck I, Theuns J, Goossens D, Wauters J, Del-Favero J, Cruts M, van Duijn C, Van Broeckhoven C: APP duplication is sufficient to cause early-onset Alzheimer's dementia with cerebral amyloid angiopathy. Brain 129: 2977-2983 (2006) (PMID: 16921174)

All Publications