Caroline Eykens

Laboratory of Neurobiology
Experimental Neurology
Department of Neurosciences
Vesalius Research Center - VIB
KU Leuven

Bachelor in Biomedical Sciences, KU Leuven, 2011
Master in Biomedical Sciences, KU Leuven, 2013

E-mail: caroline.eykens@vib-kuleuven.be
Phone: +32 (16) 33 07 62

Keywords

Neurodegeneration – amyotrophic lateral sclerosis - mouse model – TDP-43

Science

ALS is an adult-onset neurodegenerative disease that affects the upper and lower motor neurons in the cerebral cortex, brain stem and spinal cord. It results in progressive MN loss, muscle paralysis and atrophy leading to death within a few years. Most ALS patients have the sporadic form of the disease, but in about 10% ALS is inherited or familial (FALS). FALS is caused by mutations in a variety of genes, such as SOD1 or TDP-43. Interestingly, TDP-43 pathology can be found in both familial as well as in sporadic patients.

ALS is known to be a non-cell autonomous disease. In the present project, we intend to further investigate the contribution of oligodendrocytes to the pathogenesis of ALS. We will attempt to answer the question whether expression of a mutant ALS-causing protein selectively in the oligodendrocytes is sufficient to induce motor neuron damage *in vivo*. As a mutant protein we have chosen TDP43 ($TDP43^{A315T}$), as oligodendroglial TDP43-containing inclusions are frequently seen in familial and sporadic ALS spinal cords.