

Introductory Remarks to Symposium 34

Glial cells in de- and remyelination

Ralf Linker and Martin Stangel, Erlangen and Hannover

In the adult central nervous system (CNS), glial cells play an important role for myelin maintenance and myelin repair. The symposium will cover contributions on mechanisms of myelin breakdown, the influence of NG2 positive cells as well as astrocytes on myelin in health and disease and finally include an overview of current glial targets for modulating myelin repair in models of demyelinating disease. The first talk by Mikael Simons will focus on an integrative approach comprising live imaging, electron microscopy, and genetics to explain myelin assembly, abnormal myelin outfoldings in neurological disease and plasticity of myelin biogenesis in the adult CNS. The second presentation by Leda Dimou deals with the role of GPR17 expressing NG2-cells which rapidly undergo maturation in models of trauma or ischemia thus suggesting that they represent a reserve pool of adult progenitors for repair in the adult CNS. Martin Stangel`s lecture concentrates on the function of astrocytes in the model of cuprizone mediated demyelination. The studies show that astrocytes provide the molecular environment for the recruitment of debris-clearing microglia. The final talk by Ralf Linker will focus on the role of glial cells in autoimmune demyelination. The presentation will elucidate new targets for glial cell protection as well as remyelination and also include an outlook on translation to human demyelinating disease.

Symposium 34

Saturday, March 25, 2017
8:30 - 10:30, Lecture Hall 103

Chairs: Ralf Linker and Martin Stangel,
Erlangen and Hannover

- 08:30 **Opening Remarks**
- 08:40 Mikael Simons, Göttingen
MECHANISMS OF MYELIN BREAKDOWN IN
DEMYELINATING DISEASES (S34-1)
- 09:00 Leda Dimou, Martinsried
NG2-GLIA IN HEALTH AND DISEASE: THEIR
ROLE IN THE ADULT BRAIN (S34-2)
- 09:20 Martin Stangel, Hannover
ROLE OF ASTROCYTES IN DE- AND REMYELI-
NATION (S34-3)
- 09:40 Ralf Linker, Erlangen
MODULATING GLIAL CELLS IN AUTOIMMUNE
ENCEPHALOMYELITIS – ON THE WAY TO
TRANSLATIONAL MEDICINE? (S34-4)
- 10:00 Carsten Slotta, Bielefeld
IMPAIRED SCHWANN CELL AUTOPHAGY IN A
LATE ONSET MOTONEURON DISEASE (S34-5)
- 10:10 Sarah Förster, Cambridge, UK
FUNCTIONAL HETEROGENEITY OF OPCs IN
THE CENTRAL NERVOUS SYSTEM (S34-6)
- 10:20 **Concluding Remarks**