Introductory Remarks to Symposium 22

From monocytes to microglia - conditions influencing the fate of myeloid cells in the brain

Josef Priller and Marco Prinz, Berlin and Freiburg

The brain hosts a heterogenous population of myeloid cells, including microglia, perivascular cells, meningeal macrophages and disease-associated blood-borne monocytes. In contrast to other glial cells, brain macrophages are more closely related to the peripheral immune system than to the neuroectoderm. Thus far, the different types of brain macrophages have been discriminated solely on the basis of their localization, morphology and surface epitope expression. However, recent data suggest that brain-resident microglia may be functionally distinct from the bone marrow-derived macrophages that invade the CNS under pathological conditions. During the last few years, the advent of novel tools in imaging, genetics and immunology, in particular transgenic mouse models, has dramatically changed research into brain macrophages. Recent studies making use of these new methodologies have yielded unexpected results that challenge the traditional view of brain macrophages. Members of the DFG Research Unit 1336 have gained major new insights into the conditions that influence brain macrophage subtypes with regard to their origin, function and fate within the CNS. This symposium will highlight the latest developments on I) the origin and fate of CNS macrophages (Prinz); II) the role of bone marrow-derived myeloid cells in the diseased brain (Priller); III) the visualization of myeloid cells during CNS autoimmunity (Flügel); and finally, IV) microglia aging (Bechmann).

Symposium 22, Friday, March 24, 11:30 - 13:30

Symposium 22

Friday, March 24, 2017
11:30 - 13:30, Lecture Hall 104

Chairs: Josef Priller and Marco Prinz, Berlin and Freiburg

11:30 **Opening Remarks**

11:35 Ingo Bechmann, Leipzig
MICROGLIA AGING (S22-1)

12:00 Alexander Flügel, Göttingen
LIVE ANALYSIS OF T-CELL INTERACTIONS WITH MYELOID CELLS WITHIN NASCENT AUTOIMMUNE CNS LESIONS (S22-2)

12:25 Josef Priller, Berlin
THERAPEUTIC POTENTIAL OF MYELOID CELLS IN NEURODEGENERATIVE DISEASES (S22-3)

12:50 Marco Prinz, Freiburg
MYELOID CELLS IN THE CNS (S22-4)

13:15 Najwa Ouali Alami, Ulm
ASTROCYTES-RESTRICTED NF-κB ACTIVATION ENHANCES MICROGLIAL RESPONSE AND INDUCES A TRANSIENT NEUROPROTECTION ON MOTOR NEURONS DURING ALS DISEASE PROGRESSION (S22-5)

13:25 **Concluding Remarks**

Symposia