



Introductory Remarks to Symposium 3

Keeping neurons alive – erythropoietin, its variants and its receptors

Nina Hahn and Ralf Heinrich, Göttingen

Beneficial functions of recombinant erythropoietin (Epo) have frequently been employed for treatment after stroke, in neurodegenerative diseases and neuropsychiatric disorders, however, hematopoietic adverse effects still prevent a general clinical use. Hence, unraveling the different molecular pathways underlying Epo's hematopoietic and neuroprotective effects is of great importance. Our symposium "Keeping neurons alive – erythropoietin, its variants and its receptors" will highlight recent developments in the characterization of Epo-receptors and specific Epo-like ligands involved in neuroprotection and neuroregeneration.

Endogenous expression and release of erythropoietin in the nervous system (from neurons, glia and endothelial cells) has been documented by numerous studies. Epo plays important roles for brain development and adapts nervous cells to changing conditions. In addition to the homodimeric Epo-receptor (EpoR), which stimulates erythropoiesis in the bone marrow, alternative Epo-receptors mediate protective and regenerative functions in the nervous system. These alternative Epo-receptors can selectively be activated by some endogenous Epo splice variants and designed Epo-mimetic derivatives which do not stimulate erythropoiesis via homodimeric EpoR. It is meanwhile accepted that different types of neurons and glia express different types of Epo-receptors and that their expression may depend on particular physiological challenges that cells have to cope with. Knowledge about specific Epo-receptors with respect to their interaction with Epo-like ligands, their expression and their impact on the challenged neurons will enable the clinical treatment of compromised nervous functions without unwanted side effects on other tissues or erythropoiesis.

Symposium 3

Wednesday, March 20, 2019
14:30 - 16:30, Lecture Hall 103

Chairs: *Nina Hahn and Ralf Heinrich, Göttingen*

- 14:30 **Opening Remarks**
- 14:35 Daniela Ostrowski, Kirksville, USA
HOW ERYTHROPOIETIN MEDIATES ITS NEUROPROTECTIVE EFFECTS (S3-1)
- 14:55 Christel Bonnas, Göttingen
EV-3, AN ENDOGENOUS HUMAN ERYTHROPOIETIN ISOFORM WITH DISTINCT FUNCTIONAL RELEVANCE (S3-2)
- 15:20 Nina Hahn, Göttingen
EPO-INDUCED NEUROPROTECTION: CRUCIAL ROLE FOR ORTHOLOGUES OF THE ORPHAN CYTOKINE RECEPTOR CRLF3 (S3-3)
- 15:40 Edith Schneider-Gasser, Zurich, Switzerland
ERYTHROPOIETIN SIGNALING IN MOUSE ANGIO-OLIGO-NEUROGENESIS (S3-4)
- 16:05 Pardes Habib, Aachen
ERYTHROPOIETIN REGULATES ANTI-APOPTOTIC TMBIM FAMILY MEMBERS AFTER ISCHEMIC STROKE (S3-5)



Lightning-Link® antibody labeling technology

World's fastest, easiest to use and most efficient antibody conjugation method offering antibody and protein labeling with only 30 seconds hands-on time and with no separation steps.

