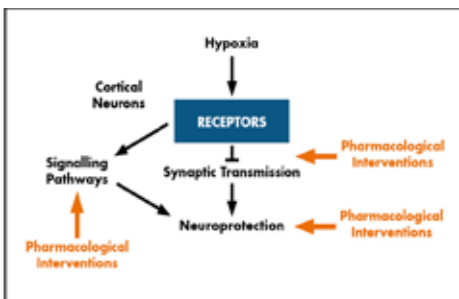


KEYWORDS

- » Neuroprotection
- » Hypoxia
- » Purines
- » Inflammation
- » Neurotransmission



CONTACT

Prof. Dr. Karen Nieber
Professur für Pharmakologie für
Naturwissenschaftler
Fakultät für Biowissenschaften,
Pharmazie und Psychologie

Institut für Pharmazie
Talstr. 33
04103 Leipzig
Fon +49-(0)341-97 36812
Fax +49-(0)341-97 36898
nieber@uni-leipzig.de
www.uni-leipzig.de/~pharm/phfn

NEUROTRANSMISSION AND NEURO-PROTECTION BY NEW COMPOUNDS

The group is specialized in electrophysiological (intracellular recordings, patch-clamp-setup, Ca²⁺-imaging) and cell-biological investigations on different cell systems (brain slices, cell cultures, human cells). Research topics include regulation of neurotransmission, receptor interactions and new signalling pathways of purinergic receptors and the mode of action of herbal drugs. The group is further interested in the role of purinergic receptors during hypoxia or brain injury. These studies include testing of new receptor ligands.

A second area of investigations deals with effects of adenosine receptor ligands on inflammatory processes on the rat small and large intestinal preparations. These studies involve pharmacological, molecularbiological and histological investigations. Different herbal drugs are tested to influence the inflammatory processes. The involvement of special receptors (adenosine-, NMDA-, GABAA-receptors) in the mode of action of these herbal drugs is evaluated. In the area of synthetic materials for implants the group focuses on biocompatibility using humane endothelial cells and monocytes. Cell characterization involves electrophysiological methods, biochemical assays, immunohistochemistry and real time PCR. Numerous cooperation agreements exist with other national and international research laboratories.

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