

# Prof. Michael Heneka, MD

## Clinical Neurosciences Unit



### Rheinische Friedrich-Wilhelms-Universität Bonn

#### Clinical Neurosciences Unit, Director

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#### Research Expertise

Prof. Heneka is involved in basic science and translational research with focus on neurodegeneration and neuroinflammation. His major disease of interest and research topics include Alzheimer disease, amyotrophic lateral sclerosis, septic encephalopathy and multiple sclerosis. In clinical neurology, Prof. Heneka holds special expertise in neurodegenerative and autoimmune CNS disorders.

#### Education / Training

University of Bonn, Germany, Neurology, Professorial qualification (Habilitation), 2003

University of Bonn, Germany, Neurology, Specialty qualification, 2002

University of Tübingen, Germany, Medicine, MD, 1996

#### Appointments / Positions Held

2008 - present

Full Professor (W3) for Clinical Neurosciences, Head of the Clinical Research Group 177 of the DFG, University of Bonn

2004 - 2008

Full Professor (C3) for Molecular Neurology, University of Münster

2004

Senior Clinical Fellow in Neurology, University of Bonn

1999 - 2003

Resident in Neurology, University of Bonn

1996 - 1999

Resident in Neurology, University of Tübingen

1992 - 1996

Predoctoral research fellow in the Dept. of Pharmacology, University of Cologne

#### Honors / Awards

2013 - present

Associate Editor Neurology, Neuroimmunology and Neuroinflammation

2013

Hans und Ilse Breuer Award for Alzheimer Research

2012 - present

Editorial Board Molecular Neurobiology

2011

Christa Lorenz Award for Amyotrophic Lateral Sclerosis Research

2010 - present

Editorial Board Journal of Neurochemistry

2007 - present

Board Member of the Competence Network Degenerative Dementias (CNDD)

2008

Editorial board, Journal of Chemical Neuroanatomy

1998

Attempto Award - best Thesis of the University of Bonn

#### 10 Most Relevant Publications for Prof. Michael Heneka

1. **Heneka MT**, Klockgether T, Feinstein DL. Peroxisome proliferator-activated receptor-gamma ligands reduce neuronal inducible nitric oxide synthase expression and cell death in vivo. *J Neurosci* 2000;20:6862-6867.
2. **Heneka MT**, Galea E, Gavriluyk V, Dumitrescu-Ozimek L, Daeschner J, O'Banion MK, Klockgether T, Feinstein DL. Noradrenergic depletion potentiates beta-amyloid induced cortical inflammation: Implications for Alzheimer's disease. *J Neurosci* 2002;22:2434-2442.
3. **Heneka MT**, Dewachter I, Sastre M, Dumitrescu-Ozimek L, Cuiperi K, a gonist pioglitazone and ibuprofen reduces inflammation and A $\beta$  1-42 levels in APP V7171 transgenic mice. *Brain* 2005;128:1442-1453.
4. Schütz B, Reimann J, Dumitrescu-Ozimek L, Kappes-Horn K, Landreth GE, Schürmann B, Zimmer A, **Heneka MT**. The oral antidiabetic pioglitazone protects from neurodegeneration and ALS-like symptoms in SOD1-G93A transgenic mice. *J Neurosci* 2005;25:7805-7812.
5. Sastre M, Dewachter I, Rossner S, Bogdanovic N, Rosen E, Borghraef P, Evert BO, Dumitrescu-Ozimek D, Thal DR, Landreth GE, Walter J, Klockgether T, Van Leuven F, **Heneka MT** (2006) NSAIDs suppress BACE1 gene expression by the activation of PPAR $\gamma$ . *Proc Natl Acad Sci USA* 2006;103:443-448.
6. **Heneka MT**, Ramanathan M, Jacobs AH, Dumitrescu-Ozimek L, Debeir T, Sastre M, Bilkei-Gorzo A, Zimmer A, Galldikis N, Hoehn M, Heiss WD, Klockgether T, Staufenbiel M. Locus ceruleus degeneration promotes Alzheimer pathogenesis in APP transgenic mice. *J. Neurosci* 2006;26:1343-1354.
7. Weberpals M, Hermes M, Hermann M, Kummer MP, Terwel D, Semmler A, Berger M, Schäfers M, **Heneka MT** (2009) NOS2 gene deficiency protects from sepsis-induced long-term cognitive deficits. *J Neurosci*, 29:14177-84.
8. **Heneka MT**, Nadrigny F, Regen T, Dumitrescu-Ozimek L, Terwel D, Jardanhazi-Kurutz D, Walter J, Kirchhoff F, Hanisch U, Kummer MP (2010) Locus ceruleus controls Alzheimer disease pathology by modulating microglial functions through norepinephrine. *Proc. Natl. Acad. Sci. U.S.A.*, 107:6058-63.
9. Kummer MP, Hermes M, Delekarte A, Hammerschmidt T, Kumar S, Terwel D, Walter J, Pape HC, König, S, Roeber S, Jessen F, Klockgether T, Korte M, **Heneka MT** (2011) Nitration of tyrosine 10 critically enhances amyloid  $\beta$  aggregation and plaque formation. *Neuron* 71:833-44.
10. **Heneka MT**, Kummer MP, Stutz A, Delekate A, Schwartz S, Vieira-Saecker A, Griep A, Axt D, Remus A, Tzeng TC, Gelpi E, Halle A, Korte M, Latz E, Golenbock DT (2013) NLRP3 is activated in Alzheimer's disease and contributes to pathology in APP/PS1 mice. *Nature*. 493: 674-678.