Dr. rer. nat. Heiko Backes

Academic Training

2005 – 2008	Studies of Medical Physics, FU/Humboldt University/Charité, Berlin, Germany
2000 – 2004	Ph.D student, Department of Geophysics, University of Cologne, Germany
1997 – 1998	Diploma thesis, Department of Physics (Prof. A.O. Caldeira), University of Campinas, Brazil
1992 – 1999	Studies of Physics, University of Karlsruhe, Germany

Scientific Degrees

2004	Ph.D, Department of Geophysics, Universtity of Cologne Germany (Prof. F.M. Neubauer)
1999	Diploma in Physics, University of Karlsruhe, Germany (Prof. Peter Wölfle, Prof. Thilo Kopp)

Professional Career

2012 – present	Max Planck Institute for Metabolism Research, Cologne
2007 – 2012	Max Planck Institute for Neurological Research, Cologne
2005 – 2007	Department of Neurology, Universtity Hospital Cologne

Publications (selection)

1. Lippert RN, Cremer AL, Thanarajah SE, Korn C, Jahans-Price T, Burgeno L, Tittgemeyer M, Brüning JC, Walton ME & Backes H (2019) Time-dependent assessment of stimulus-evoked regional dopamine release. Nat. Commun. *10(1)*, 336.
2. Thanarajah SE, Backes H, DiFeliceantonio AG, Albus K, Cremer AL, Hanssen R, Lippert RN, Cornely OA, Small DM, Brüning JC & Tittgemeyer M (2019) Food Intake Recruits Orosensory and Post-ingestive Dopaminergic Circuits to Affect Eating Desire in Humans. Cell Metab. *29*, 1-12.
3. Jais, A., Solas, M., Backes, H., Chaurasia, B., Kleinridders, A., Theurich, S., Mauer, J., Steculorum, S., Hampel, B., Goldau, J., Alber, J., Förster, C., Eming, S., Schwaninger, M., Ferrara, N., Karsenty, G., Brüning, J.C. (2016) Myeloid-Cell-Derived VEGF Maintains Brain Glucose Uptake and Limits Cognitive Impairment in Obesity. Cell *165*: 882-895.
4. Backes, H., Walberer, M., Ladwig, A., Rueger, M., Neumaier, B., Endepols, H., Hoehn, M., Fink, G., Schroeter, M. Graf, R. (2016) Glucose consumption of inflammatory cells masks metabolic deficits in the brain. NeuroImage *128*: 54-62.
5. Feuerstein, D., Backes, H., Gramer, M., Takagaki, M., Gabel, P., Kumagai, T., & Graf, R. (2015). Regulation of cerebral metabolism during cortical spreading depression. Journal of Cerebral Blood Flow and Metabolism : Official Journal of the International Society of Cerebral Blood Flow and Metabolism. J Cereb Blood Flow Metab. *36*: 1965-1977.
6. Feuerstein, D., Takagaki, M., Gramer, M., Manning, A., Endepols, H., Vollmar, S., Yoshimine, T., Strong, A., Graf, R., Backes, H. (2014) Detecting tissue deterioration after brain injury: regional blood flow level versus capacity to raise blood flow. J Cereb Blood Flow Metab. *34*: 1117-1127.
7. Backes, H., Walberer, M., Endepols, H., Neumaier, B., Graf, R., Wienhard, K. Mies, G. (2011) Whiskers Area as Extracerebral Reference Tissue for Quantification of Rat Brain Metabolism Using 18F-FDG PET: Application to Focal Cerebral Ischemia. J Nucl Med. *52*: 1252-1260.

8. Walberer, M., Backes, H., Rueger, M. A., Neumaier, B., Endepols, H., Hoehn, M., et al. (2011). Potential of Early [18F]-2-Fluoro-2-Deoxy-d-Glucose Positron Emission Tomography for Identifying Hypoperfusion and Predicting Fate of Tissue in a Rat Embolic Stroke Model. Stroke *43*: 193-198.
9. Backes, H., Ullrich, R., Neumaier, B., Kracht, L., Wienhard, K., & Jacobs, A. (2009). Noninvasive quantification of (18)F-FLT human brain PET for the assessment of tumour proliferation in patients with high-grade glioma. European Journal of Nuclear Medicine and Molecular Imaging. Eur J Nucl Med Mol Imaging *36*: 1960.
10. Backes, H., Neubauer, F.M., Dougherty, M.K., Achilleos, N., André, N., Arridge, C.S., Bertucci, C., Jones, G.H., Khurana, K.K., Russell, C.T., Wennmacher, A. (2005) Titan's magnetic field signature during the first Cassini encounter. Science *308*: 992–995.