

Einladung zum Vortrag von

**Robert Margolskee**



Director of the Monell Chemical Senses Center

**Taste cells of the gut and  
caloric sensors of the tongue**

3. Oktober 2016, 15-17 Uhr

Universität für Bodenkultur Wien, Muthgasse 18

Hörsaal XX oder Seminarraum 12 (wird noch bekannt gegeben)

Eintritt frei

Robert F. Margolskee is

- Director of the Monell Chemical Senses Center,
- Adjunct Professor, Department of Systems Pharmacology and Translational Therapeutics, University of Pennsylvania Perelman School of Medicine
- Adjunct Professor, Department of Neuroscience, Mount Sinai School of Medicine
- Adjunct Professor, Department of Pharmacology and Systems Therapeutics, Mount Sinai School of Medicine
- Adjunct Professor, Department of Structural and Chemical Biology, Mount Sinai School of Medicine
- Adjunct Professor in the Department of Neuroscience at the Mount Sinai School of Medicine

Margolskee is also the Scientific Founder of Redpoint Bio. Margolskee has been a pioneer in the application of molecular biology and transgenic animal models to the study of taste transduction and chemosensation. He has made numerous seminal discoveries in the taste field, including the identification and molecular cloning of taste specific receptors, G proteins, channels and other taste signal transduction elements.

Margolskee's basic science research focus has been on the molecular mechanisms of taste transduction, utilizing molecular biology, biochemistry, structural biology, electrophysiology and transgenesis to study the mechanisms of signal transduction in mammalian taste cells. In 1992, his laboratory discovered gustducin, a taste cell expressed G protein. Subsequently, Margolskee has demonstrated that gustducin is critical to the transduction of compounds that humans consider bitter, sweet or umami. Margolskee's laboratory discovered the T1r3 sweet taste receptor in 2001 and the Trpm5 cation channel in 2002. Much of his current work is focused on 'taste cells of the gut' and 'endocrine cells of the tongue'. He has been studying the chemosensory functions of taste signaling proteins in gut and pancreatic endocrine cells. Other projects in the Margolskee lab focus on taste stem cells and endocrine properties of taste cells shedding light on how the gut "tastes" nutrients. This new area of research has important implications for diabetes and obesity.

#### Recent Publications

Glendinning, J.I.; Stano, S.; Holter, M.; Azenkot, T.; Goldman, O.; Margolskee, R.F.; Vasselli, J.R.; Sclafani, A. (2015) Sugar-induced cephalic-phase insulin release is mediated by a T1r2+T1r3-independent taste transduction pathway in mice. *Am J Physiol Regul Integr Comp Physiol*. doi: 10.1152/ajpregu.00056.2015. [Epub ahead of print]

Yoshida, R.; Noguchi, K.; Shigemura, N.; Jyotaki, M.; Takahashi, I.; Margolskee, R.F.; Ninomiya, Y. (2015) Leptin suppresses mouse taste cell responses to sweet compounds. *Diabetes*. pii: db141462. [Epub ahead of print]

Takai, S.; Yasumatsu, K.; Inoue, M.; Iwata, S.; Yoshida, R.; Shigemura, N.; Yanagawa, Y.; Drucker, D.J.; Margolskee, R.F.; Ninomiya, Y. (2015) Glucagon-like peptide-1 is specifically involved in sweet taste transmission. *FASEB J*, 29, 2268-80. doi: 10.1096/fj.14-265355.

Ren, W.; Lewandowski, B.C.; Watson, J.; Aihara, E.; Iwatsuki, K.; Bachmanov, A.A.; Margolskee, R.F.; Jiang, P. (2014) Single Lgr5- or Lgr6-expressing taste stem/progenitor cells generate taste bud cells *in vivo*. *Proc Natl Acad Sci U S A*, 111, 16401-6. doi: 10.1073/pnas.1409064111.

Lei, Y.T.; Thuault, S.J.; Launay, P.; Margolskee, R.F.; Kandel, E.R.; Siegelbaum, S.A. (2014) Differential contribution of TRPM4 and TRPM5 nonselective cation channels to the slow afterdepolarization in mouse prefrontal cortex neurons. *Front Cell Neurosci*, 8, 267. doi: 10.3389/fncel.2014.00267.

Parker, M.R.; Feng, D.; Chamuris, B.; Margolskee, R.F. Expression and nuclear translocation of glucocorticoid receptors in type 2 taste receptor cells. *Neurosci Lett*, 571, 72-7. doi: 10.1016/j.neulet.2014.04.047.