Einladung zum Vortrag im Rahmen des Institutskolloquiums
von

Prof. Dr. Stephen Kent
University of Chicago

„Through the Looking Glass – a New Universe of Protein Molecules Enabled by Organic Chemistry”

Over the past four decades, Stephen Kent has profoundly shaped the field of peptide and protein chemistry. His many and diverse contributions have altered the way scientists tackle the production of these biomolecules. Preparation of the 99-amino acid long HIV protease and its enantiomer using optimized protocols for solid-phase peptide synthesis, to cite only one example, was a signal achievement. This work, together with follow-up studies, convincingly demonstrated that total chemical synthesis is a viable and practical alternative to protein biosynthesis, capable of providing large quantities of material for detailed mechanistic and structural studies.

Methods for coupling unprotected peptide fragments have been even more influential. In particular, the Kent “native chemical ligation” has made much larger proteins accessible to direct chemical investigation via convergent, chemoselective assembly of smaller segments that are easy to prepare and purify. Since its introduction in 1994, native chemical ligation has become a robust, reliable and widely used technology. Some of its most exciting applications include selective labeling of individual protein domains for spectroscopic studies and incorporation of unnatural amino acids or novel backbone modifications into the target sequence. Efficient total chemical synthesis of human insulin, fully active glycoprotein mimetics of erythropoietin, and many mirror image protein molecules highlight the practical utility of such approaches.

Freitag, 10. November 2017, 14:00 Uhr
Kleiner Hörsaal III
Währinger Straße 38, 1090 Wien

Christian Friedrich Wilhelm Becker
Institut für Biologische Chemie

Bernhard Keppler
Dekan
Lothar Brecker
Vizedekan
Veronika Somoza
Vizedekanin