

BIOLOGICAL CHEMISTRY

*Founded in 1877 by Felix Hoppe-Seyler as
Zeitschrift für Physiologische Chemie*

Felix Hoppe-Seyler (1825–1895) was a pioneer of biochemistry, remembered not only for his discovery of hemoglobin and his contributions to the chemical characterization of many other biological compounds and processes but also for having been the mentor of Friedrich Miescher and Albrecht Kossel. In his preface to the first issue of *Zeitschrift für Physiologische Chemie*, Felix Hoppe-Seyler coined the term *Biochemistry* ('Biochemie') for the then newly emerging discipline.



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COVER ILLUSTRATION

The activity and distribution patterns of the cysteine cathepsins B and X, extracellular matrix components, lateral and tight junction constituents, and brush border enzymes were investigated along the length of the gastro-intestinal tract of wild type and cathepsin B- and/or X-deficient mice. The image on the cover depicts a cryo-section of the ileum of cathepsin X-deficient mice that was immunolabelled with E-cadherin- (green) and occludin-specific antibodies (red), and counter-stained for nuclear DNA with Draq5™ (blue). The results highlight major differences of protease distribution among various parts of the mouse intestine, and demonstrate the significance of a delicate balance of proteolytic activities in intact gastro-intestinal tissue. Furthermore, the outcomes of cathepsin B and cathepsin X deficiencies depend on specific regions of the small and large intestine, pointing to the importance of further studies aiming at more detailed and improved assessments of drug safety when cathepsin inhibitors are considered to be orally administered. For further details please see the article by Tamhane et al. on pp. 1201–1219 in this issue.

Image courtesy of Dr. Tripti Tamhane, Research Center MOLIFE, Focus Area HEALTH, Jacobs University Bremen, Bremen, Germany.



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