

BIOLOGICAL CHEMISTRY



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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

Rickettsia species are obligate intracellular zoonotic pathogens and include the causative agents of spotted fever rickettsioses worldwide. These bacteria have independently lost several genes and are known to evolve by genome reduction. RC0497 of *Rickettsia conorii* is a peptidoglycan-hydrolyzing *N*-acetylmuramoyl L-alanine amidase belonging to the AmpD superfamily of proteins. In their article on pp. 249-262 in this issue of *Biological Chemistry*, Patel et al. report on the comparative phylogenetic analysis, transcript and protein expression, structural modelling, enzymatic activity, and localization of RC0497 in the periplasm, on the cell wall, and on the membranes of vesicles pinching off the cell wall in *R. conorii*. The immunoelectron micrograph image on the front cover shows a dividing *R. conorii* bacterium and localization of RC0497 (black dots) at the septal areas (magnified in the inset) represented by invagination of the cytoplasmic membrane, the mucopeptide layer of replicating bacteria, and on the membranes of vesicles pinching off the cell wall.

Image copyright: Hema P. Narra, Vsevolod L. Popov, and Sanjeev K. Sahni, Department of Pathology, University of Texas Medical Branch, Galveston, USA



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