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.
Contents

Guest Editorial
Johannes M. Herrmann, Katja Becker and Tobias P. Dick
Dynamics of thiol-based redox switches: redox at its peak! — 221

Highlight: Dynamics of Thiol-Based Redox Switches
Brandán Pedre and Tobias P. Dick
3-Mercaptopyruvate sulfurtransferase: an enzyme at the crossroads of sulfane sulfur trafficking — 223

Kathrin Ulrich, Blanche Schwappach and Ursula Jakob
Thiol-based switching mechanisms of stress-sensing chaperones — 239

Inken Lorenzen, Johannes A. Eble and Eva-Maria Hanschmann
Thiol switches in membrane proteins - Extracellular redox regulation in cell biology — 253

Katalin Buday and Marcus Conrad
Emerging roles for non-selenium containing ER-resident glutathione peroxidases in cell signaling and disease — 271

Johannes M. Herrmann and Jan Riemer
Apoptosis inducing factor and mitochondrial NADH dehydrogenases: redox-controlled gear boxes to switch between mitochondrial biogenesis and cell death — 289

Marharyta Varatnitskaya, Adriana Degrossoli and Lars I. Leichert
Redox regulation in host-pathogen interactions: thiol switches and beyond — 299

Frederik Barbarino, Lucas Wäschenbach, Virginia Cavalho-Lemos, Melissa Dillenberger, Katja Becker, Holger Gohlke and Miriam M. Cortese-Krott
Targeting spectrin redox switches to regulate the mechanoproperties of red blood cells — 317

Nico Linzner, Vu Van Loi, Verena Nadin Fritsch and Haiske Antelmann
Thiol-based redox switches in the major pathogen Staphylococcus aureus — 333

Oksana Breus and Thomas Dickmeis
Genetically encoded thiol redox-sensors in the zebrafish model: lessons for embryonic development and regeneration — 363

Daniel Wittmann, Neha Sinha and Bernhard Grimm
Thioredoxin-dependent control balances the metabolic activities of tetrapyrrole biosynthesis — 379

Andreas J. Meyer, Anna Dreyer, José M. Ugalde, Elias Feitosa-Araujo, Karl-Josef Dietz and Markus Schwarzländer
Shifting paradigms and novel players in Cys-based redox regulation and ROS signaling in plants - and where to go next — 399