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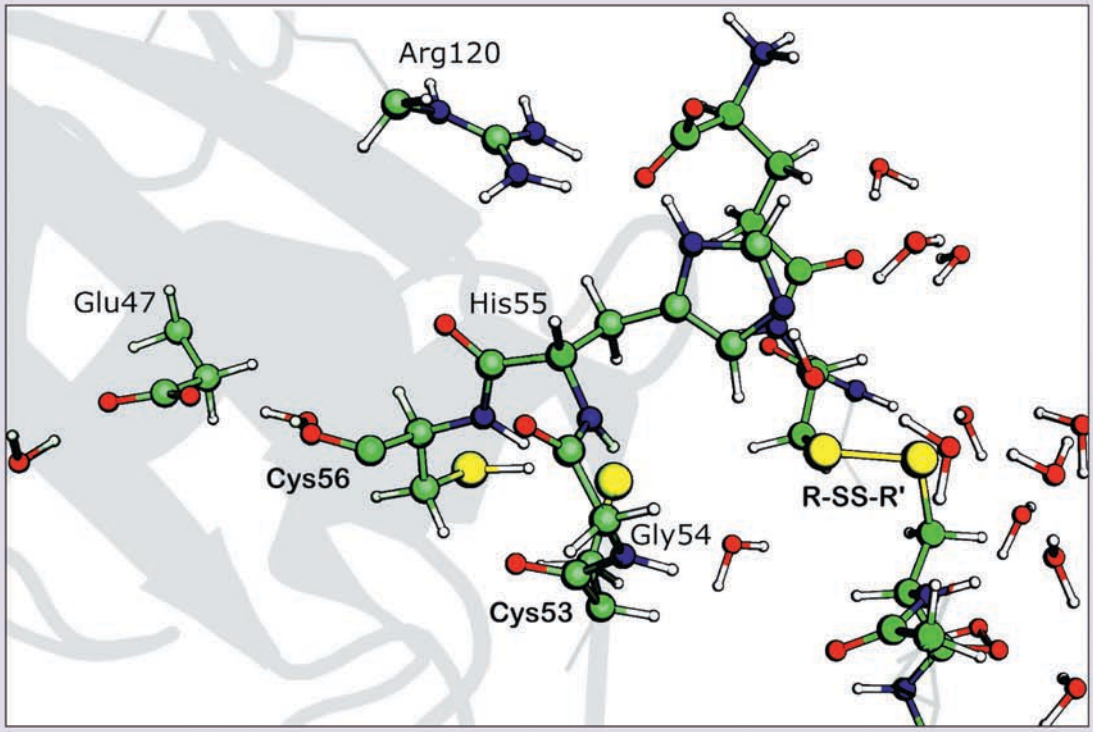
# BIOLOGICAL CHEMISTRY

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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**

Thioredoxin-like proteins are involved in the formation, transfer or isomerization of disulfide bonds through a characteristic thiol-disulfide exchange reaction and a conserved Cys-$X_1$-$X_2$-Cys motif. Disulfide bonds are exceptional chemical phenomena, critical for protein stability and redox homeostasis in cells, and with important effects in several neurodegenerative and cardiovascular diseases. In their review article on pp. 575–587 in this issue, Sousa et al. discuss underlying mechanistic features of disulfide bond formation through thiol-disulfide exchange in the thioredoxin family of proteins, with an emphasis on atomic level computational results. Shown on the front cover is the catalytically competent active site of the a-domain of human protein disulfide isomerase with a peptide-like substrate (oxidized glutathione).

Image courtesy of Maria J. Ramos, Departamento de Química e Bioquímica, Faculdade de Ciências, Universidade do Porto, Porto, Portugal.

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