

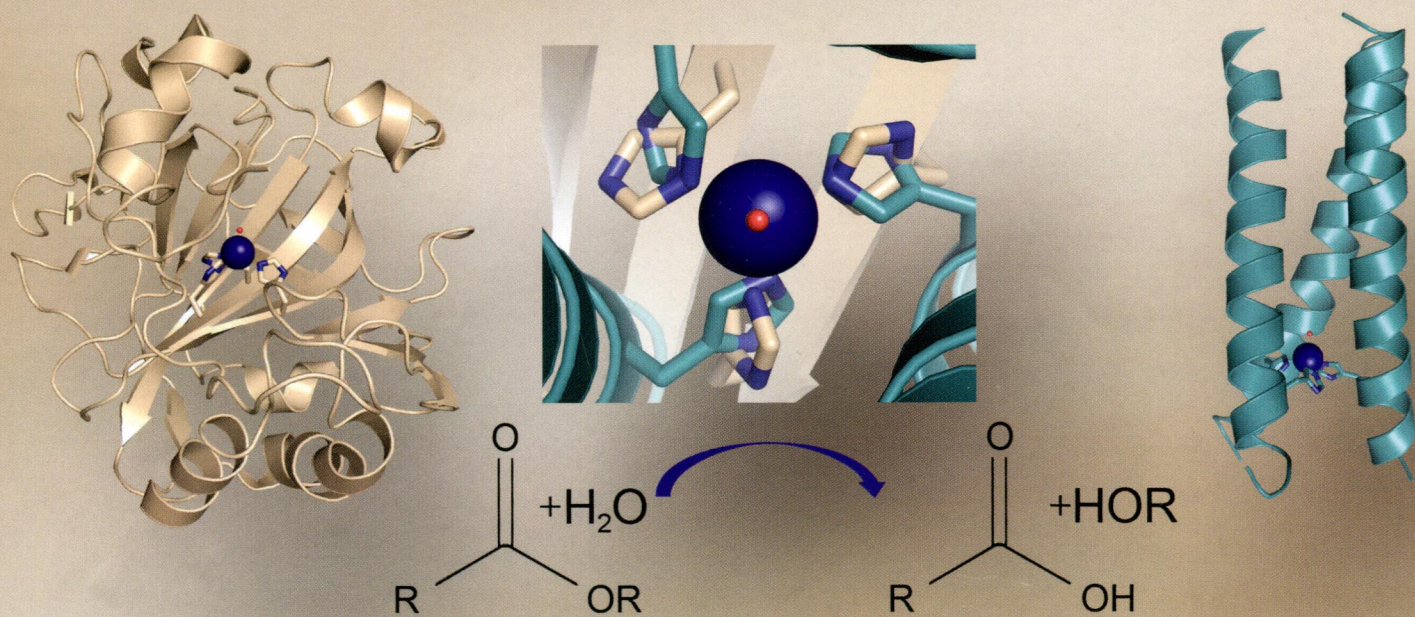
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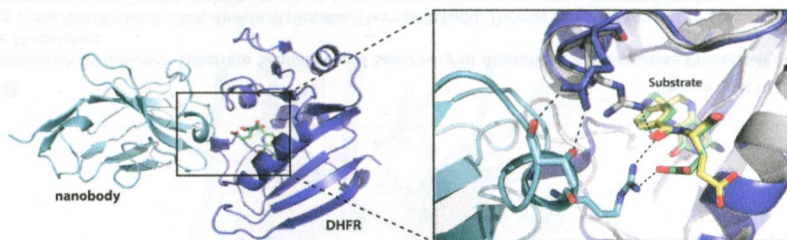
**ON THE COVER:** Using de novo and redesign approaches toward the preparation of structural and functional models of hydrolytic zinc metalloenzymes. [Zastrow, M. L., and Pecoraro, V. L. (2014) *Biochemistry* 53, 957–978]

## Rapid Reports

1879 **S**

[dx.doi.org/10.1021/bi500110j](https://doi.org/10.1021/bi500110j)

**Inhibition of Ligand Exchange Kinetics via Active-Site Trapping with an Antibody Fragment**  
David Oyen, Jan Steyaert, and John N. Barlow\*

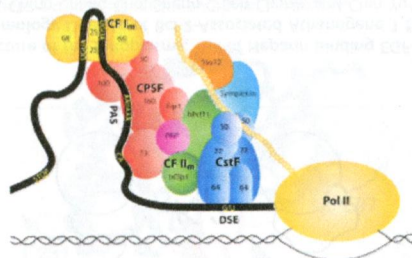


## Current Topics

1882

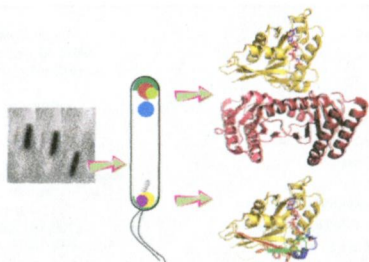
[dx.doi.org/10.1021/bi401715v](https://doi.org/10.1021/bi401715v)

**Structure and Function of Pre-mRNA 5'-End Capping Quality Control and 3'-End Processing**  
Ashley R. Jurado, Dazhi Tan, Xinfu Jiao, Megerditch Kiledjian, and Liang Tong\*



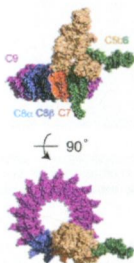
## Regulation of Bacterial Cell Polarity by Small GTPases

Daniela Keilberg and Lotte Søgaard-Andersen\*



## The Making of a Macromolecular Machine: Assembly of the Membrane Attack Complex

Doryen Bubeck\*

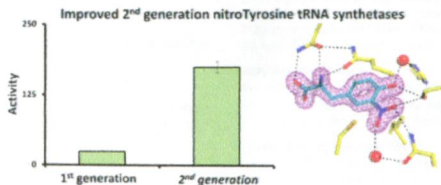


## Articles



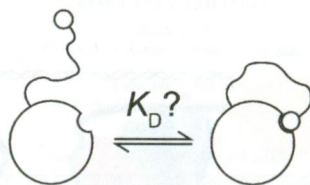
## Structural Basis of Improved Second-Generation 3-Nitro-tyrosine tRNA Synthetases

Richard B. Cooley, Jessica L. Feldman, Camden M. Driggers, Taylor A. Bundy, Audrey L. Stokes, P. Andrew Karplus, and Ryan A. Mehl\*



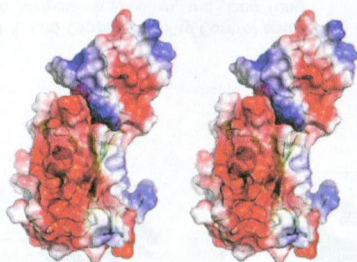
**Bound or Free: Interaction of the C-Terminal Domain of *Escherichia coli* Single-Stranded DNA-Binding Protein (SSB) with the Tetrameric Core of SSB**

Xun-Cheng Su, Yao Wang, Hiromasa Yagi, Dmitry Shishmarev, Claire E. Mason, Paul J. Smith, Marylène Vandevenne, Nicholas E. Dixon, and Gottfried Otting\*



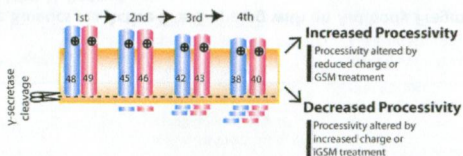
**Nuclear Magnetic Resonance Structure of the Cytoplasmic Tail of Heparin Binding EGF-like Growth Factor (proHB-EGF-CT) Complexed with the Ubiquitin Homology Domain of Bcl-2-Associated Athanogene 1 from *Mus musculus* (mBAG-1-UBH)**

Kuo-Wei Hung,\* Hsiao-Wen Huang, Ching-Chang Cho, Sheng-Chieh Chang, and Chin Yu\*



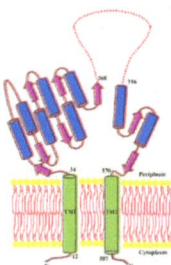
**Complex Relationships between Substrate Sequence and Sensitivity to Alterations in  $\gamma$ -Secretase Processivity Induced by  $\gamma$ -Secretase Modulators**

Joo In Jung, Yong Ran, Pedro E. Cruz, Awilda M. Rosario, Thomas B. Ladd, Thomas L. Kukar, Edward H. Koo, Kevin M. Felsenstein,\* and Todd E. Golde\*

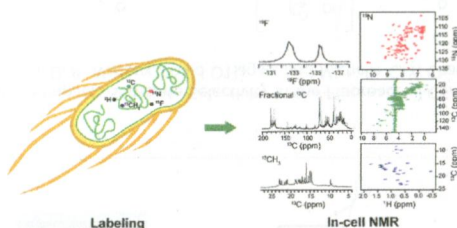


**Purification and Biophysical Characterization of the CapA Membrane Protein FTT0807 from *Francisella tularensis***

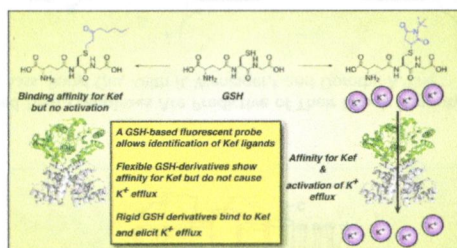
Jose M. Martin-Garcia, Debra T. Hansen, James Zook, Andrey V. Loskutov, Mark D. Robida, Felicia M. Craciunescu, Kathryn F. Sykes, Rebekka M. Wachter, Petra Fromme, and James P. Allen\*

**Strategies for Protein NMR in *Escherichia coli***

Guohua Xu, Yansheng Ye, Xiaoli Liu, Shufen Cao, Qiong Wu, Kai Cheng, Maili Liu, Gary J. Pielak, and Conggang Li\*

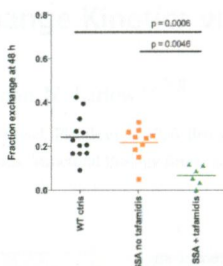
**Understanding the Structural Requirements for Activators of the Kef Bacterial Potassium Efflux System**

Jessica Healy, Silvia Ekkerman, Christos Pliotas, Morgiane Richard, Wendy Bartlett, Samuel C. Grayer, Garrett M. Morris, Samantha Miller, Ian R. Booth, Stuart J. Conway,\* and Tim Rasmussen\*



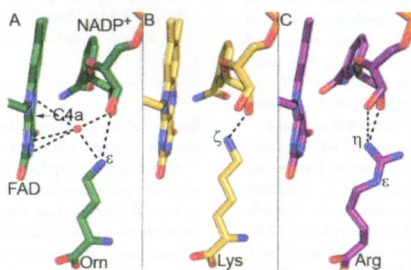
### Quantification of Transthyretin Kinetic Stability in Human Plasma Using Subunit Exchange

Irit Rappley, Cecilia Monteiro, Marta Novais, Aleksandra Baranczak, Gregory Solis, R. Luke Wiseman, Stephen Helmke, Mathew S. Maurer, Teresa Coelho, Evan T. Powers, and Jeffery W. Kelly\*



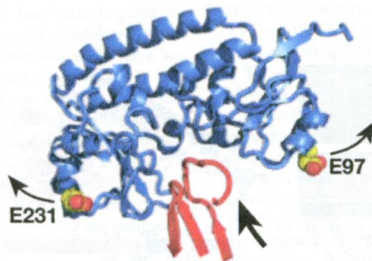
### How pH Modulates the Reactivity and Selectivity of a Siderophore-Associated Flavin Monooxygenase

Rosanne E. Frederick, Sunil Ojha, Audrey Lamb, and Jennifer L. DuBois\*



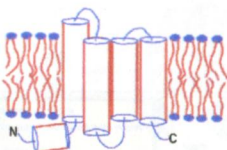
### Crystal and Solution Structure Analysis of FhuD2 from *Staphylococcus aureus* in Multiple Unliganded Conformations and Bound to Ferrioxamine-B

Krzysztof J. Podkowa, Lee-Ann K. Briere, David E. Heinrichs, and Brian H. Shilton\*



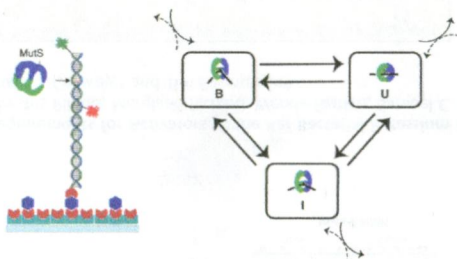
### Purification and Structural Study of the Voltage-Sensor Domain of the Human KCNQ1 Potassium Ion Channel

Dungeng Peng, Ji-Hun Kim, Brett M. Kroncke, Cheryl L. Law, Yan Xia, Kristin D. Droegge, Wade D. Van Horn, Carlos G. Vanoye, and Charles R. Sanders\*



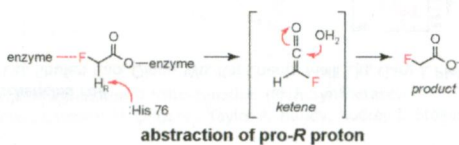
### Dynamics of MutS–Mismatched DNA Complexes Are Predictive of Their Repair Phenotypes

Vanessa C. DeRocco, Lauryl E. Sass, Ruoyi Qiu, Keith R. Weninger,\* and Dorothy A. Erie\*



### Molecular Recognition of Fluorine Impacts Substrate Selectivity in the Fluoroacetyl-CoA Thioesterase FIK

Amy M. Weeks, Neil S. Keddie, Rudy D. P. Wadoux, David O'Hagan, and Michelle C. Y. Chang\*



## Probing Kinase Activation and Substrate Specificity with an Engineered Monomeric IKK2

Arthur V. Hauenstein, W. Eric Rogers, Jacob D. Shaul, De-Bin Huang, Gourisankar Ghosh, and Tom Huxford\*

