

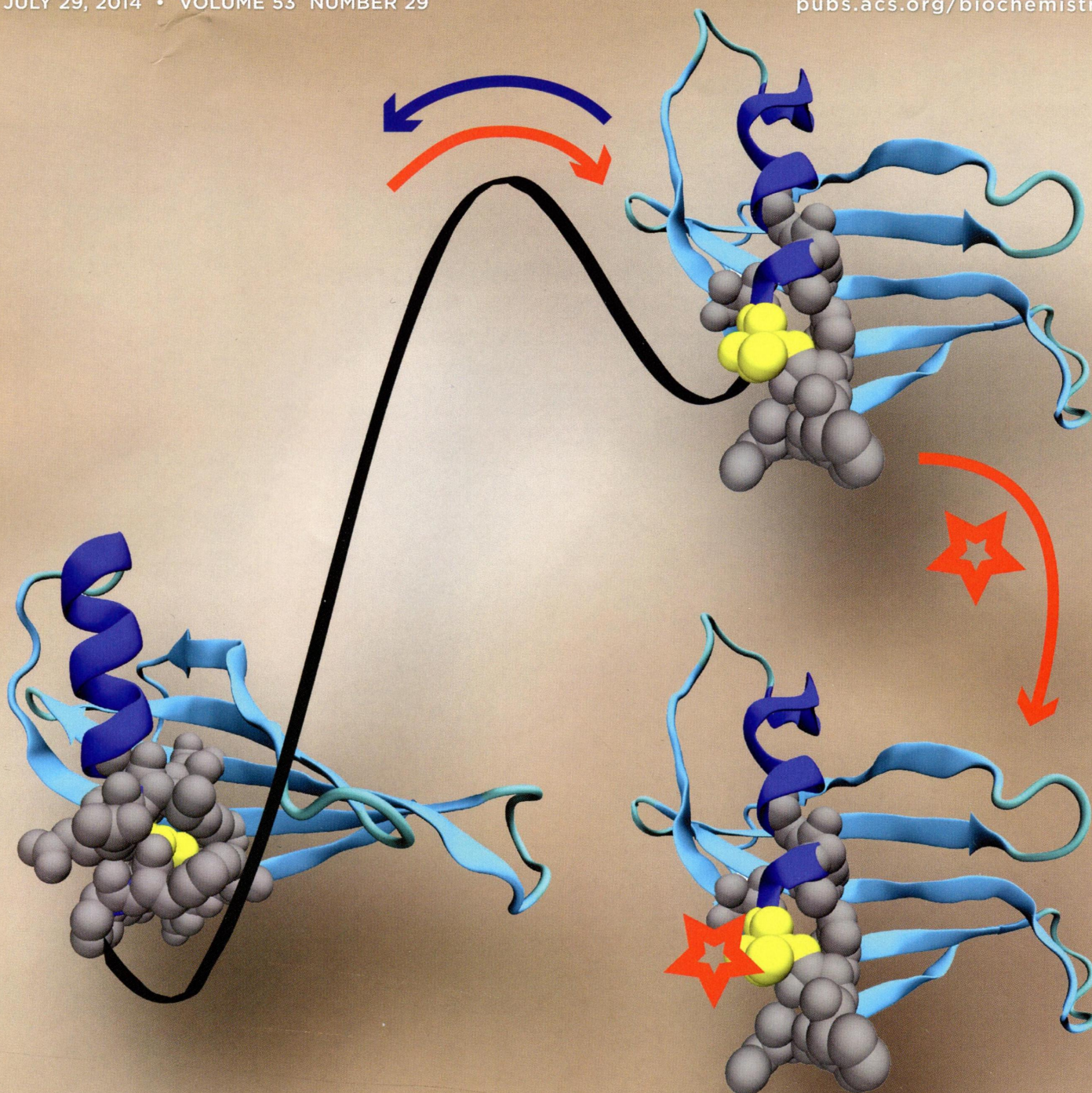
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ON THE COVER: Thiol labeling of a single cysteine residue (yellow spheres) has been used to monitor rare unfolding events in a protein under nativelike conditions. The residues (gray spheres) surrounding the buried cysteine move apart, resulting in solvent exposure and hence labeling of the side chain thiol. This deprotection of the side chain is associated with an energy barrier between the native state and a partially unfolded, labeling-competent intermediate. Such intermediates have been mapped onto the unfolding energy landscape of the protein monellin using the kinetic and thermodynamic information obtained from thiol labeling. [Malhotra, P., and Udgaonkar, J. B. (2014) *Biochemistry* 53, 3608–3620]

Rapid Reports

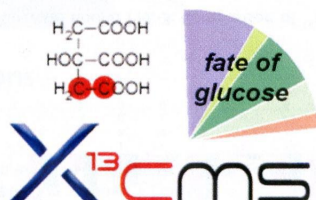
4755



[dx.doi.org/10.1021/bi500763u](https://doi.org/10.1021/bi500763u)

Differential Incorporation of Glucose into Biomass during Warburg Metabolism

Ying-Jr Chen, Xiaojing Huang, Nathaniel G. Mahieu, Kevin Cho, Jacob Schaefer, and Gary J. Patti*



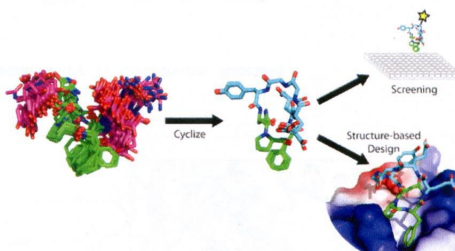
4758



[dx.doi.org/10.1021/bi500744q](https://doi.org/10.1021/bi500744q)

Structured Cyclic Peptides That Bind the EH Domain of EHD1

Alissa J. Kamens, Robyn J. Eisert, Tiffany Corlin, James D. Baleja, and Joshua A. Kritzer*

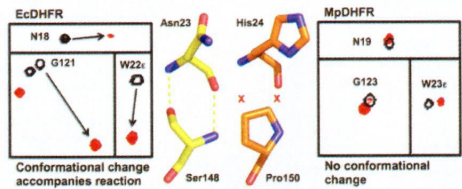


4761 **5**

[dx.doi.org/10.1021/bi500507v](https://doi.org/10.1021/bi500507v)

Role of the Occluded Conformation in Bacterial Dihydrofolate Reductases

Enas M. Behiry, Louis Y. P. Luk, Stella M. Matthews, E. Joel Loveridge,* and Rudolf K. Allemann*

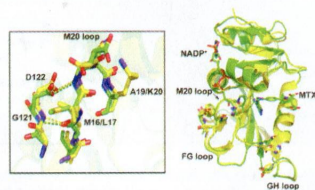


4769 **5**

[dx.doi.org/10.1021/bi500508z](https://doi.org/10.1021/bi500508z)

Loop Interactions during Catalysis by Dihydrofolate Reductase from *Moritella profunda*

Enas M. Behiry, Rhiannon M. Evans, Jiannan Guo, E. Joel Loveridge, and Rudolf K. Allemann*

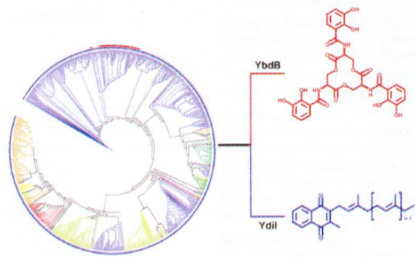


4775 **5**

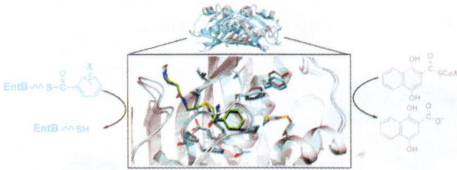
[dx.doi.org/10.1021/bi500333m](https://doi.org/10.1021/bi500333m)

Divergence of Substrate Specificity and Function in the *Escherichia coli* Hotdog-fold Thioesterase Paralogs YdiI and YdbB

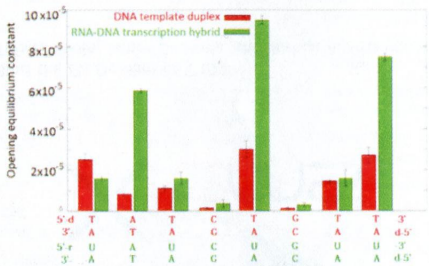
John A. Latham, Danqi Chen, Karen N. Allen, and Debra Dunaway-Mariano*



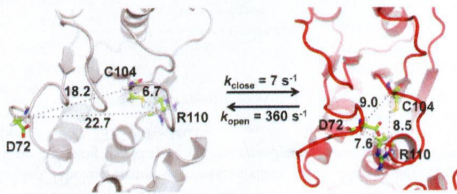
Structure and Catalysis in the *Escherichia coli* Hotdog-fold Thioesterase Paralogs Ydil and YbdB
Rui Wu, John A. Latham, Danqi Chen, Jeremiah Farelli, Hong Zhao, Kaila Matthews, Karen N. Allen,* and Debra Dunaway-Mariano*



Site-Resolved Structural Energetics of the T7 Concatemer Junction
Jie Zhang and Irina M. Russu*

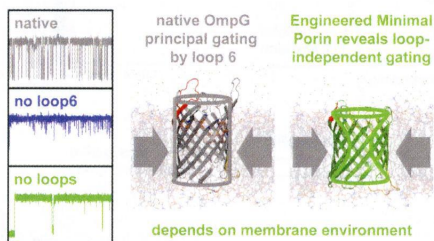


Structure and Backbone Dynamics of Vanadate-Bound PRL-3: Comparison of ¹⁵N Nuclear Magnetic Resonance Relaxation Profiles of Free and Vanadate-Bound PRL-3
Ki-Woong Jeong, Dong-Il Kang, Eunjung Lee, Aream Shin, Bonghwan Jin, Young-Guen Park, Chung-Kyoung Lee, Eun-Hee Kim, Young Ho Jeon, Eunice Eunkyong Kim, and Yangmee Kim*



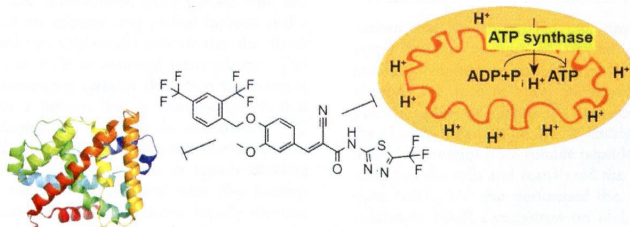
Structure-Based Engineering of a Minimal Porin Reveals Loop-Independent Channel Closure

Wolfgang Grosse, Georgios Psakis, Barbara Mertins, Philipp Reiss, Dirk Windisch, Felix Brademann, Jochen B rck, Anne Ulrich, Ulrich Koert, and Lars-Oliver Essen*



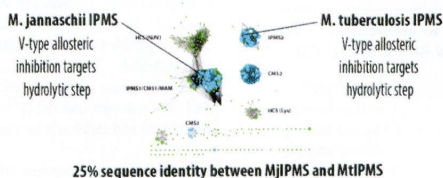
The Estrogen-Related Receptor α Inverse Agonist XCT 790 Is a Nanomolar Mitochondrial Uncoupler

Banu Eskiocak, Aktar Ali, and Michael A. White*



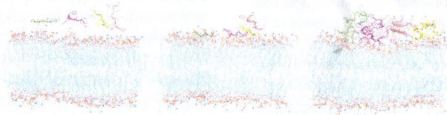
Evolutionarily Distinct Versions of the Multidomain Enzyme α -Isopropylmalate Synthase Share Discrete Mechanisms of V-Type Allosteric Regulation

Garima Kumar and Patrick A. Frantom*

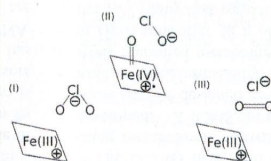
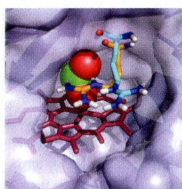


Combining Experimental Evidence and Molecular Dynamic Simulations To Understand the Mechanism of Action of the Antimicrobial Octapeptide Jelleine-I

Marcia Perez dos Santos Cabrera,* Gisele Baldissera, Laiz da Costa Silva-Gonçalves, Bibiana Monson de Souza, Karin A. Riske, Mario Sérgio Palma, José Roberto Ruggiero, and Manoel Arcísio-Miranda

**Investigation of Ion Binding in Chlorite Dismutases by Means of Molecular Dynamics Simulations**

Axel Sündermann, Maria M. Reif, Stefan Hofbauer, Christian Obinger, and Chris Oostenbrink*

**Additions and Corrections****Correction to A Flexible Glutamine Regulates the Catalytic Activity of Toluene *o*-Xylene Monooxygenase**

Alexandria Deliz Liang, Alexandra T. Wrobel, and Stephen J. Lippard*