

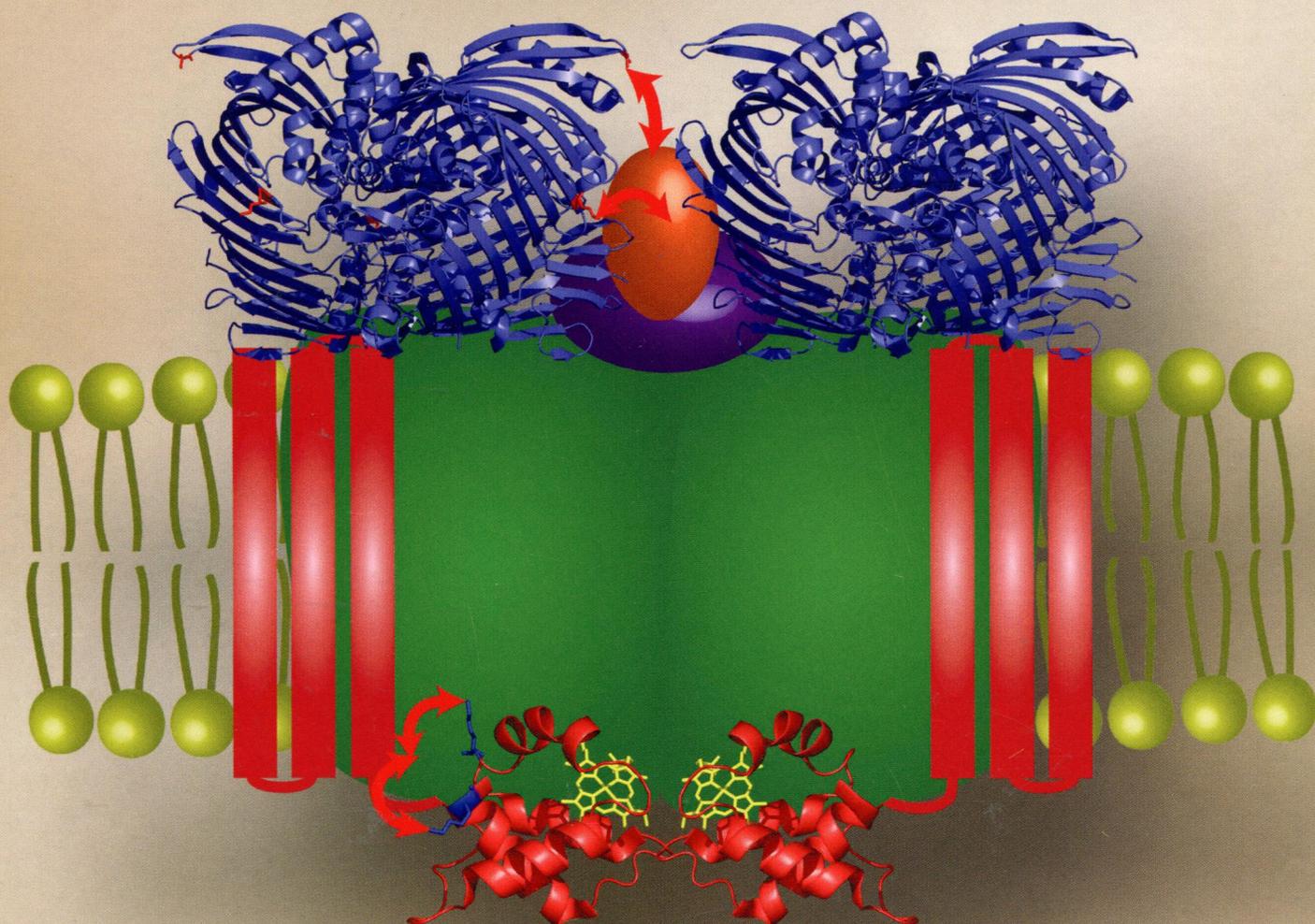
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DECEMBER 16, 2014 • VOLUME 53 NUMBER 49

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ON THE COVER: The photosynthetic apparatus of the anoxygenic photosynthetic green sulfur bacterium *Chlorobaculum tepidum* includes the reaction center core (RCC) complex and the FMO antenna protein. The RCC complex is an Fe-S-type (type I) reaction center, which is composed of a homodimeric core structure formed by two PscA proteins, PscB Fe-S protein, a cytochrome C_{551} (PscC) protein, and a PscD protein. A structural model of the FMO/RCC complex is proposed on the basis of chemical cross-linking results.

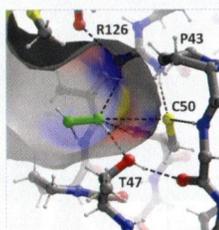
Current Topics

7693



Tuning of Peroxiredoxin Catalysis for Various Physiological Roles
Arden Perkins, Leslie B. Poole, and P. Andrew Karplus*

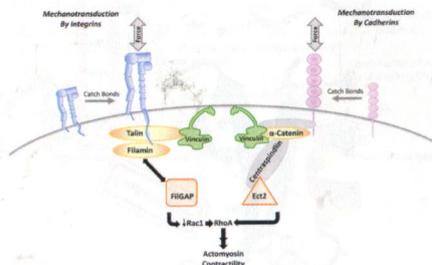
DOI: 10.1021/bi5013222



7706

Force Transmission at Cell–Cell and Cell–Matrix Adhesions
Kris A. DeMali,* Xiaowen Sun, and Gabrielle A. Bui

DOI: 10.1021/bi501181p



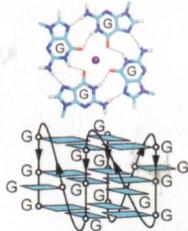
7718 **S**

DOI: 10.1021/bi500990v

Formation of G-Quadruplexes in Poly-G Sequences: Structure of a Propeller-Type Parallel-Stranded G-Quadruplex Formed by a G₁₅ Stretch

Anjali Sengar, Brahim Heddi, and Anh Tuấn Phan*

...5'GGGGGGGGGGGGGGGG3'...

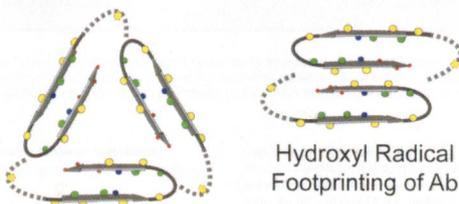


7724 **S**

DOI: 10.1021/bi5010409

A Synchrotron-Based Hydroxyl Radical Footprinting Analysis of Amyloid Fibrils and Prefibrillar Intermediates with Residue-Specific Resolution

Alexandra L. Klinger, Janna Kiselar, Serguei Ilchenko, Hiroaki Komatsu, Mark R. Chance, and Paul H. Axelsen*

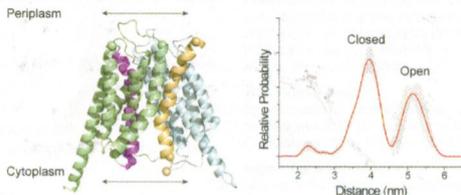


7735 **S**

DOI: 10.1021/bi5012173

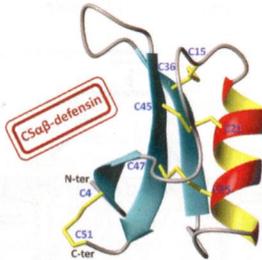
Closure of the Cytoplasmic Gate Formed by TM5 and TM11 during Transport in the Oxalate/Formate Exchanger from *Oxalobacter formigenes*

Osigbembe Iyalomhe,* Dawn Z. Herrick, David S. Cafiso,* and Peter C. Maloney



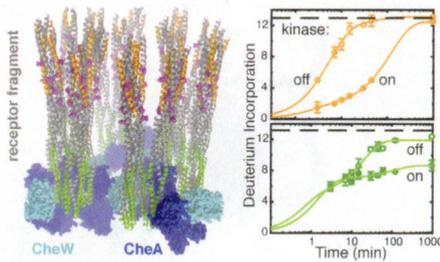
The Nuclear Magnetic Resonance Solution Structure of the Synthetic AhPDF1.1b Plant Defensin Evidences the Structural Feature within the γ -Motif

Fanny Meindre, Dominique Lelièvre, Karine Loth, Oriane Mith, Vincent Aucagne, Pierre Berthomieu, Laurence Marqués, Agnès F. Delmas, Céline Landon, and Françoise Paquet*



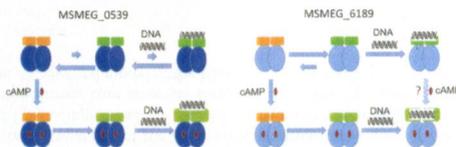
Hydrogen Exchange Differences between Chemoreceptor Signaling Complexes Localize to Functionally Important Subdomains

Seena S. Koshy, Xuni Li, Stephen J. Eyles, Robert M. Weis, and Lynmarie K. Thompson*



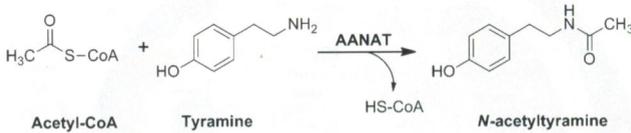
Paralogous cAMP Receptor Proteins in *Mycobacterium smegmatis* Show Biochemical and Functional Divergence

Ritu Sharma, Anisha Zaveri, Jayashree Gopalakrishnapai, Srinath Thiruneelakantan, Umesh Varshney, and Sandhya S. Visweswariah*



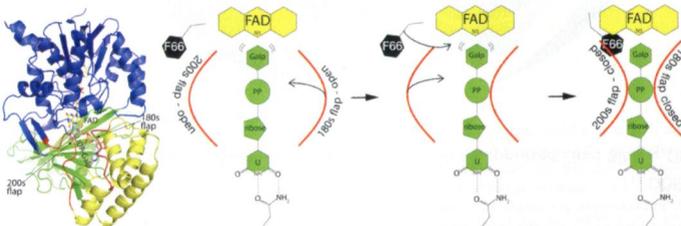
Mechanistic and Structural Analysis of *Drosophila melanogaster* Arylalkylamine N-Acetyltransferases

Daniel R. Dempsey, Kristen A. Jeffries, Jason D. Bond, Anne-Marie Carpenter, Santiago Rodriguez-Ospina, Leonid Breydo, K. Kenneth Caswell, and David J. Merkler*



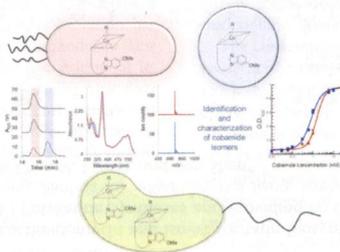
Contributions of Unique Active Site Residues of Eukaryotic UDP-Galactopyranose Mutases to Substrate Recognition and Active Site Dynamics

Isabel Da Fonseca, Insaf A. Qureshi, Ritcha Mehra-Chaudhary, Karina Kizjakina, John J. Tanner,* and Pablo Sobrado*



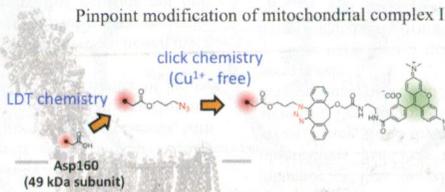
Regiospecific Formation of Cobamide Isomers Is Directed by CobT

Terence S. Crofts, Amrita B. Hazra, Jennifer LA Tran, Olga M. Sokolovskaya, Vadim Osadchiy, Omer Ad, Jeffrey Pelton, Stefan Bauer, and Michiko E. Taga*



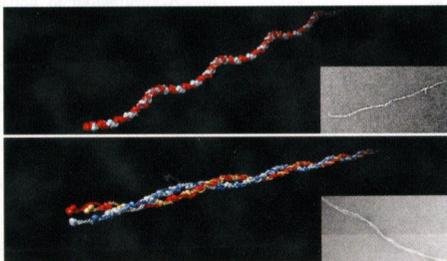
Pinpoint Chemical Modification of Asp160 in the 49 kDa Subunit of Bovine Mitochondrial Complex I via a Combination of Ligand-Directed Tosyl Chemistry and Click Chemistry

Takahiro Masuya, Masatoshi Murai, Hironobu Morisaka, and Hideto Miyoshi*



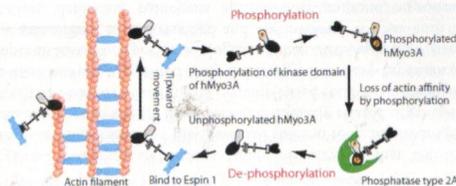
Does Topology Drive Fiber Polymerization?

Lihong Huang,* Joe Ping-Lin Hsiao, Camilla Powierza, Russell M. Taylor II, and Susan T. Lord



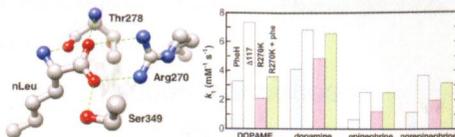
Phosphorylation of the Kinase Domain Regulates Autophosphorylation of Myosin IIIA and Its Translocation in Microvilli

Byung Chull An, Tsuyoshi Sakai, Shigeru Komaba, Hiroko Kishi, Sei Kobayashi, Jin Young Kim, Reiko Ikebe, and Mistuo Ikebe*



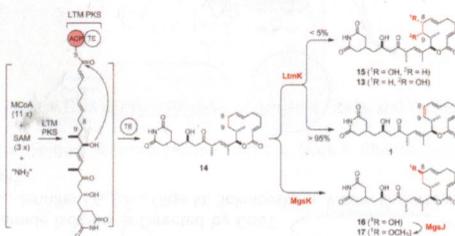
Activation of Phenylalanine Hydroxylase by Phenylalanine Does Not Require Binding in the Active Site

Kenneth M. Roberts, Crystal A. Khan, Cynthia S. Hinck, and Paul F. Fitzpatrick*



Comparative Characterization of the Lactimidomycin and iso-Migrastatin Biosynthetic Machineries Revealing Unusual Features for Acyltransferase-less Type I Polyketide Synthases and Providing an Opportunity To Engineer New Analogues

Jeong-Woo Seo, Ming Ma, Thomas Kwong, Jianhua Ju, Si-Kyu Lim, Hui Jiang, Jeremy R. Lohman, Chunying Yang, John Cleveland, Emmanuel Zazopoulos, Chris M. Farnet, and Ben Shen*



Additions and Corrections

Correction to Assembly of High Molecular Weight Complexes of Lipin on a Supported Lipid Bilayer Observed by Atomic Force Microscopy

Carl E. Creutz,* James M. Eaton, and Thurl E. Harris