

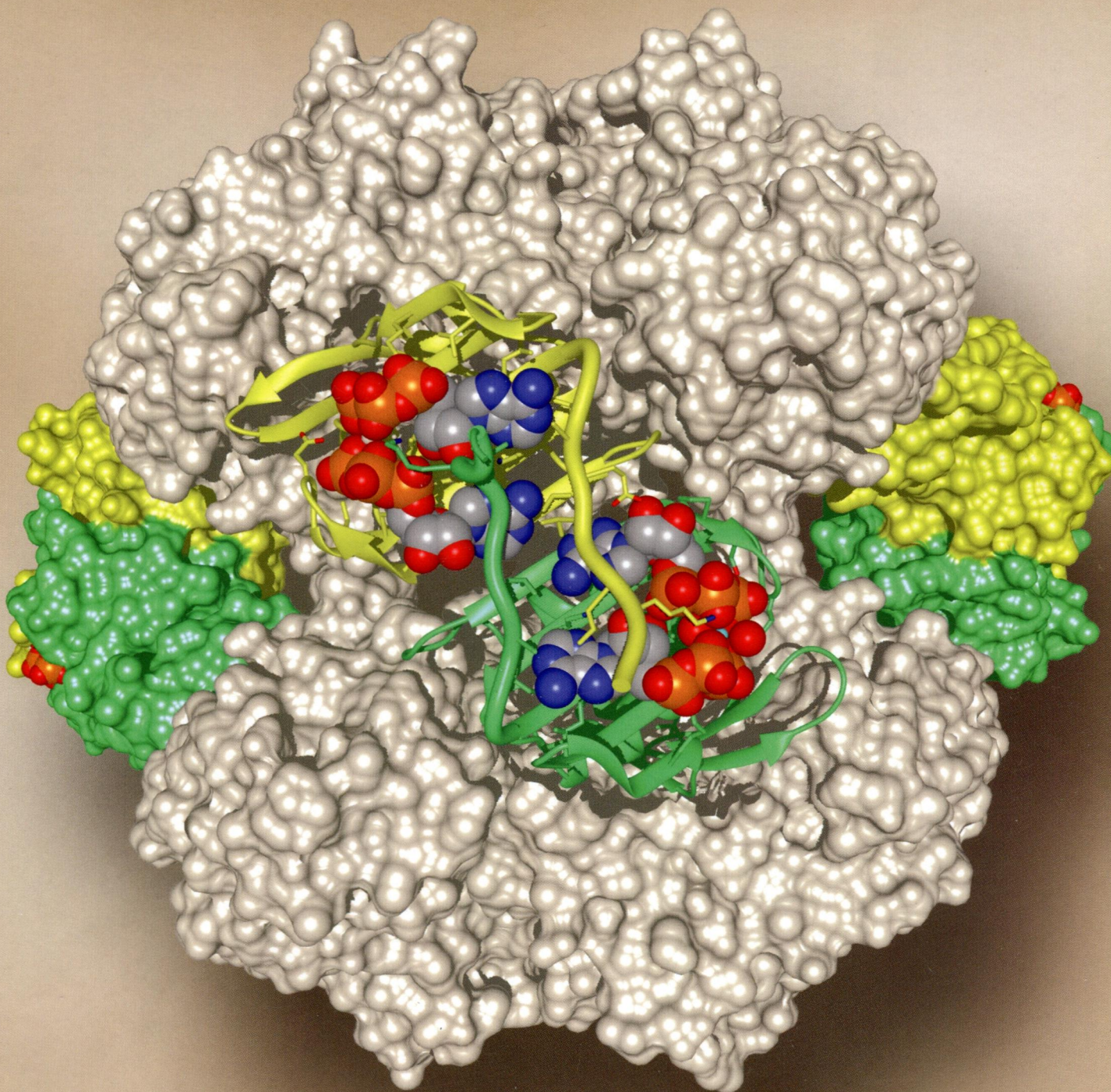
Пч,
B60/bc

BIOCHEMISTRY

including biophysical chemistry & molecular biology

MARCH 18, 2014 • VOLUME 53 NUMBER 10

pubs.acs.org/biochemistry



ACS Publications

MOST TRUSTED. MOST CITED. MOST READ.

www.acs.org

ON THE COVER: Three-dimensional structure of the *Escherichia coli* aspartate transcarbamoylase holoenzyme in the R state with two ATP molecules and a Mg^{2+} cation bound to each regulatory chain. The two catalytic trimers are shown as surface representations (tan). One chain of each of the three regulatory dimers is colored yellow, while the other is colored green. The two regulatory dimers on the sides are shown as surface representations, while the third, in front, is shown as a ribbon trace. The binding of the two ATP molecules and one Mg^{2+} molecule induces an alteration of the N-termini of the regulatory chains (thick lines), displacing them into the adjacent regulatory chain and thereby strengthening the dimer interface and further stabilizing the R state of the enzyme. This figure was generated using UCSF Chimera. [Cockrell, G. M., et al. (2013) *Biochemistry* 52, 8036–8047]

Rapid Reports

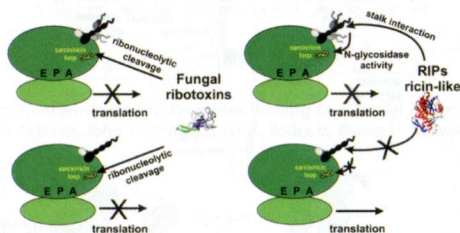
1545



dx.doi.org/10.1021/bi401470u

The Acidic Ribosomal Stalk Proteins Are Not Required for the Highly Specific Inactivation Exerted by α -Sarcin of the Eukaryotic Ribosome

Miriam Olombrada, María Rodríguez-Mateos, Daniel Prieto, Jesús Pla, Miguel Remacha, Álvaro Martínez-del-Pozo, José G. Gavilanes, Juan P. G. Ballesta, and Lucía García-Ortega*



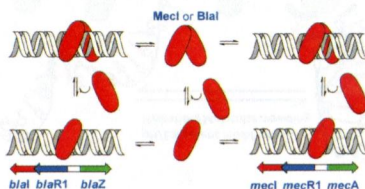
1548



dx.doi.org/10.1021/bi500074w

Regulation of the Expression of the β -Lactam Antibiotic-Resistance Determinants in Methicillin-Resistant *Staphylococcus aureus* (MRSA)

Blas Blázquez, Leticia I. Llarull, Juan R. Luque-Ortega, Carlos Alfonso, Bill Bogges, and Shahriar Mobashery*

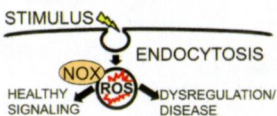


1551

[dx.doi.org/10.1021/bi401719r](https://doi.org/10.1021/bi401719r)

The Basic Biology of Redoxosomes in Cytokine-Mediated Signal Transduction and Implications for Disease-Specific Therapies

Netanya Y. Spencer and John F. Engelhardt*

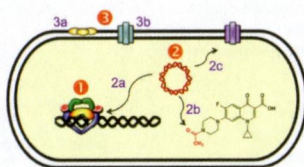


1565

[dx.doi.org/10.1021/bi5000564](https://doi.org/10.1021/bi5000564)

Mechanism of Quinolone Action and Resistance

Katie J. Aldred, Robert J. Kerns, and Neil Osheroff*



Accelerated Publications

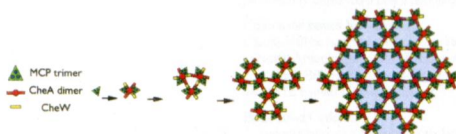
1575



[dx.doi.org/10.1021/bi5000614](https://doi.org/10.1021/bi5000614)

New Insights into Bacterial Chemoreceptor Array Structure and Assembly from Electron Cryotomography

Ariane Briegel, Margaret L. Wong, Heather L. Hodges, Catherine M. Oikonomou, Kene N. Piasta, Michael J. Harris, Daniel J. Fowler, Lynmarie K. Thompson, Joseph J. Falke, Laura L. Kiessling, and Grant J. Jensen*

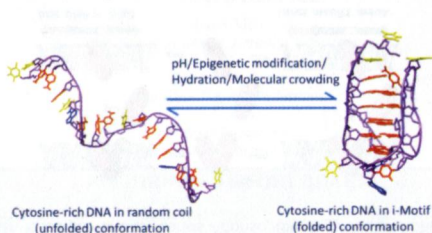


1586

dx.doi.org/10.1021/bi401523b

Epigenetic Modification, Dehydration, and Molecular Crowding Effects on the Thermodynamics of i-Motif Structure Formation from C-Rich DNA

Yogini P. Bhavsar-Jog, Eric Van Dornshuld, Tracy A. Brooks, Gregory S. Tschumper, and Randy M. Wadkins*



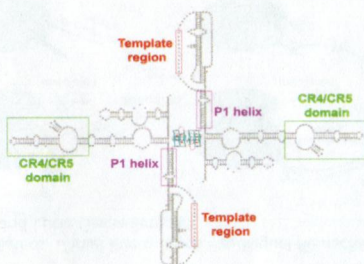
1595

5

dx.doi.org/10.1021/bi4015727

Formation of a Stacked Dimeric G-Quadruplex Containing Bulges by the 5'-Terminal Region of Human Telomerase RNA (hTERC)

Herry Martadinata and Anh Tuấn Phan*



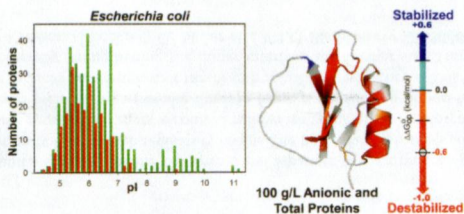
1601

5

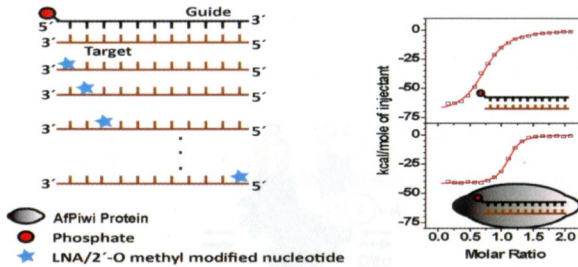
dx.doi.org/10.1021/bi4016346

Protein Crowder Charge and Protein Stability

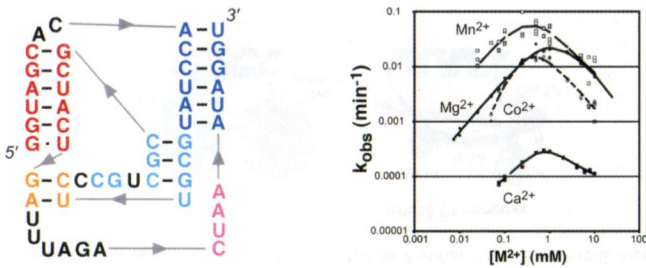
Mohona Sarkar, Joe Lu, and Gary J. Pielak*



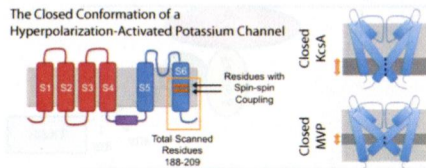
Understanding the Effect of Locked Nucleic Acid and 2'-O-Methyl Modification on the Hybridization Thermodynamics of a miRNA–mRNA Pair in the Presence and Absence of AfPwiI Protein
 Santosh Kumar, Koyeli Mapa, and Souvik Maiti*



Identification of Minimal HDV-Like Ribozymes with Unique Divalent Metal Ion Dependence in the Human Microbiome
 Nathan J. Riccitelli, Eric Delwart, and Andrej Lupták*

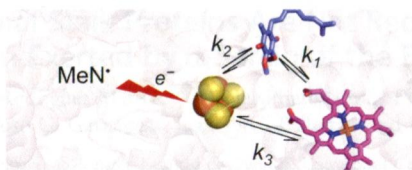


Biochemical and Structural Analysis of the Hyperpolarization-Activated K⁺ Channel MVP
 Amelia M. Randich, Luis G. Cuello, Sherry S. Wanderling, and Eduardo Perozo*

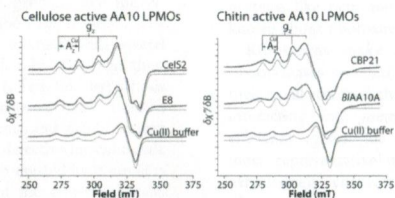


Electron-Transfer Pathways in the Heme and Quinone-Binding Domain of Complex II (Succinate Dehydrogenase)

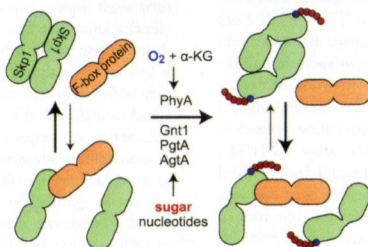
Robert F. Anderson,* Sujata S. Shinde, Russ Hille, Richard A. Rothery, Joel H. Weiner, Sany Rajaguguk, Elena Maklashina, and Gary Cecchini*

**Comparative Study of Two Chitin-Active and Two Cellulose-Active AA10-Type Lytic Polysaccharide Monooxygenases**

Zarah Forsberg, Åsmund Kjendseth Røhr, Sophanit Mekasha, K. Kristoffer Andersson, Vincent G. H. Eijsink, Gustav Vaaje-Kolstad, and Morten Sørlie*

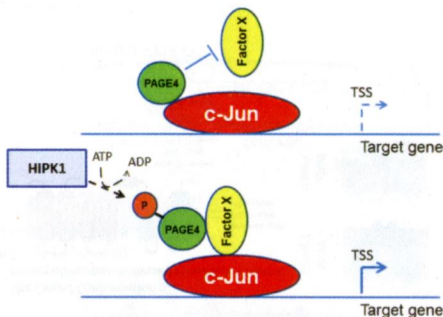
**Glycosylation of Skp1 Affects Its Conformation and Promotes Binding to a Model F-Box Protein**

M. Osman Sheikh, Christopher M. Schafer, John T. Powell, Karla K. Rodgers, Blaine H. M. Mooers, and Christopher M. West*



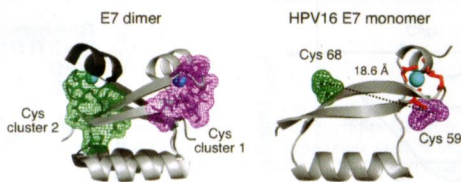
Cancer/Testis Antigen PAGE4, a Regulator of c-Jun Transactivation, Is Phosphorylated by Homeodomain-Interacting Protein Kinase 1, a Component of the Stress-Response Pathway

Steven M. Mooney, Ruoyi Qiu, John J. Kim, Elizabeth J. Sacho, Krithika Rajagopalan, Dorhyun Johng, Takumi Shiraishi, Prakash Kulkarni,* and Keith R. Weninger*



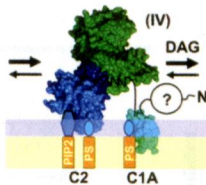
Cysteine-Rich Positions Outside the Structural Zinc Motif of Human Papillomavirus E7 Provide Conformational Modulation and Suggest Functional Redox Roles

Lucía B. Chemes, Gabriela Camporeale, Ignacio E. Sánchez, Gonzalo de Prat-Gay,* and Leonardo G. Alonso*



Single-Molecule Studies Reveal a Hidden Key Step in the Activation Mechanism of Membrane-Bound Protein Kinase C- α

Brian P. Ziemba, Jianing Li, Kyle E. Landgraf, Jefferson D. Knight, Gregory A. Voth, and Joseph J. Falke*



Structure-Based Energetics of mRNA Decoding on the Ribosome

Priyadarshi Satpati, Johan Sund, and Johan Åqvist*

