

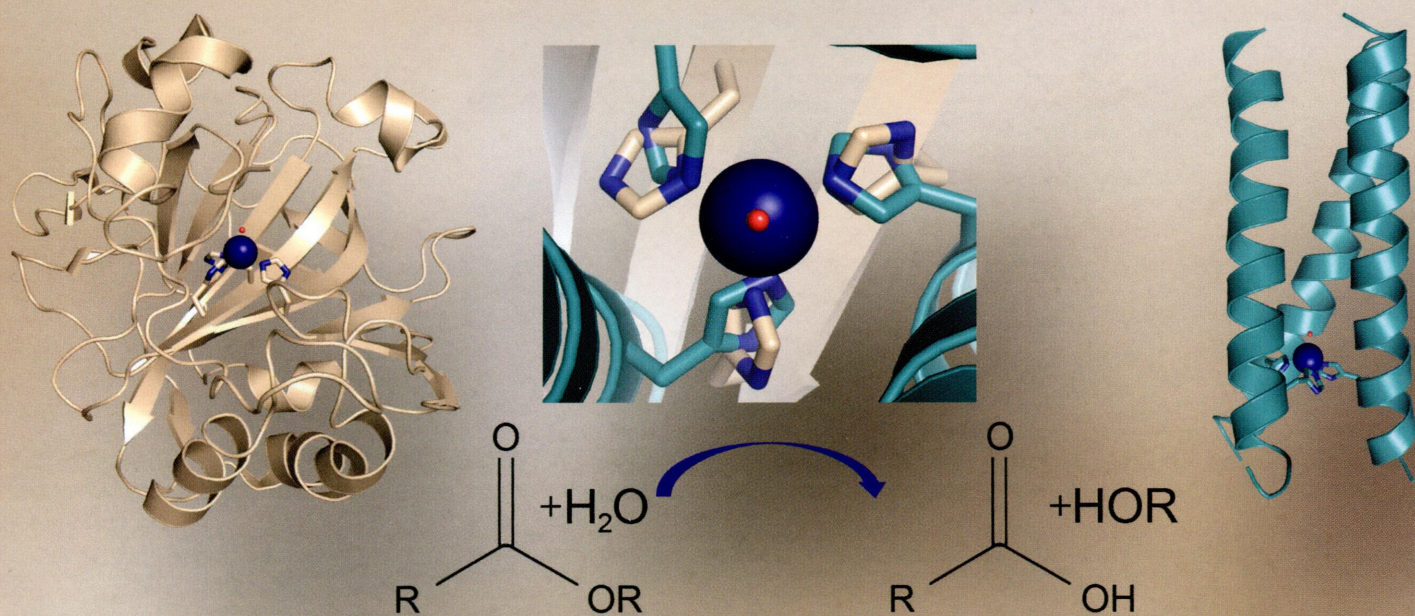
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ON THE COVER: Using de novo and redesign approaches toward the preparation of structural and functional models of hydrolytic zinc metalloenzymes. [Zastrow, M. L., and Pecoraro, V. L. (2014) *Biochemistry* 53, 957–978]

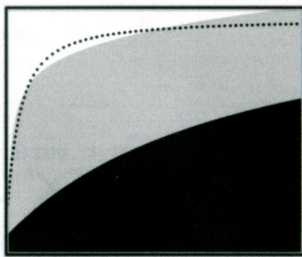
Articles

3379

[dx.doi.org/10.1021/bi500424z](https://doi.org/10.1021/bi500424z)

Unusual Characteristics of the DNA Binding Domain of Epigenetic Regulatory Protein MeCP2 Determine Its Binding Specificity

Sergei Khrapunov, Christopher Warren, Huiyong Cheng, Esther R. Berko, John M. Greally, and Michael Brenowitz*



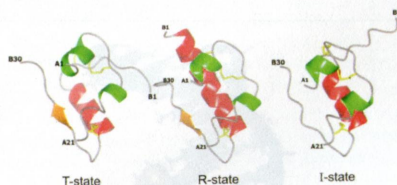
3392



[dx.doi.org/10.1021/bi500073z](https://doi.org/10.1021/bi500073z)

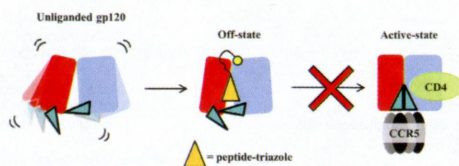
Insight into the Structural and Biological Relevance of the T/R Transition of the N-Terminus of the B-Chain in Human Insulin

Lucie Kosinová, Václav Veverka, Pavlína Novotná, Michaela Collinsová, Marie Urbanová, Nicholas R. Moody, Johan P. Turkenburg, Jiří Jiráček, Andrzej M. Brzozowski, and Lenka Žáková*



Covalent Conjugation of a Peptide Triazole to HIV-1 gp120 Enables Intramolecular Binding Site Occupancy

Ali Emileh,* Caitlin Duffy, Andrew P. Holmes, Arangassery Rosemary Bastian, Rachna Aneja, Ferit Tuzer, Srivats Rajagopal, Huiyuan Li, Cameron F. Abrams,* and Irwin M. Chaiken*

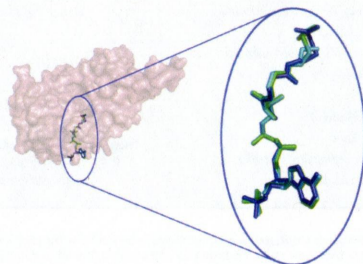


3415

dx.doi.org/10.1021/bi500380f

Structure of the p300 Histone Acetyltransferase Bound to Acetyl-Coenzyme A and Its Analogues

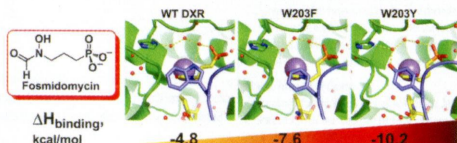
Jasna Maksimoska, Dario Segura-Peña, Philip A. Cole, and Ronen Marmorstein*

3423 **S**

dx.doi.org/10.1021/bi5004074

Alteration of the Flexible Loop in 1-Deoxy-D-xylulose-5-phosphate Reductoisomerase Boosts Enthalpy-Driven Inhibition by Fosmidomycin

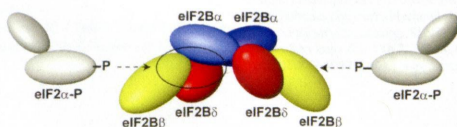
Svetlana A. Kholodar, Gregory Tomblin, Juan Liu, Zhesen Tan, C. Leigh Allen, Andrew M. Gulick, and Andrew S. Murkin*

3432 **S**

dx.doi.org/10.1021/bi500346u

Insights into the Architecture of the eIF2 α / β / δ Regulatory Subcomplex

Andrew M. Bogorad, Bing Xia, Dana G. Sandor, Artem B. Mamonov, Tanya R. Cafarella, Stefan Jehle, Sandor Vajda, Dima Kozakov, and Assen Marintchev*



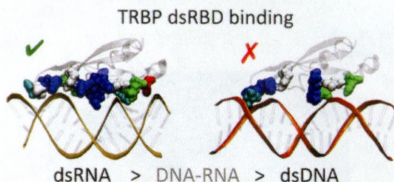
Cd Hyperfine Interactions in DNA Bases and DNA of Mouse Strains Infected with *Trypanosoma cruzi* Investigated by Perturbed Angular Correlation Spectroscopy and *ab Initio* Calculations

Philippe A. D. Petersen, Andreia S. Silva, Marcos B. Gonçalves, André L. Lapolli, Ana Maria C. Ferreira, Artur W. Carbonari, and Helena M. Petrilli*



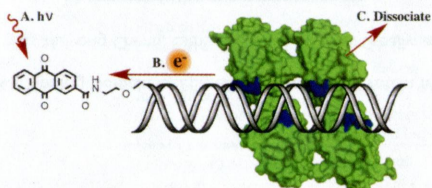
Substrate Recognition and Specificity of Double-Stranded RNA Binding Proteins

Lela Vuković,* Hye Ran Koh, Sua Myong, and Klaus Schulten



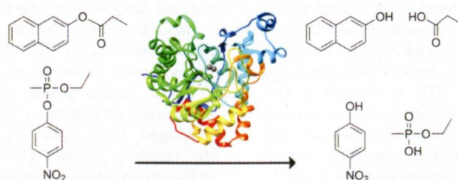
DNA-Mediated Oxidation of p53

Kathryn N. Schaefer and Jacqueline K. Barton*



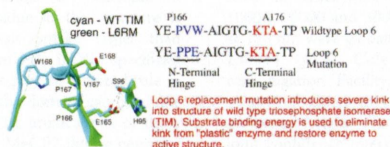
Structural Characterization and Function Determination of a Nonspecific Carboxylate Esterase from the Amidohydrolase Superfamily with a Promiscuous Ability To Hydrolyze Methylphosphonate Esters

Dao Feng Xiang, Desigan Kumaran, Subramanyam Swaminathan,* and Frank M. Raushel*



Enzyme Architecture: The Effect of Replacement and Deletion Mutations of Loop 6 on Catalysis by Triosephosphate Isomerase

Xiang Zhai, Maybelle K. Go, AnnMarie C. O'Donoghue, Tina L. Amyes, Scott D. Pegan, Yan Wang, J. Patrick Loria, Andrew D. Mesecar, and John P. Richard*



Improved Model to Predict the Free Energy Contribution of Trinucleotide Bulges to RNA Duplex Stability

Meghan H. Murray, Jessicah A. Hard, and Brent M. Znosko*

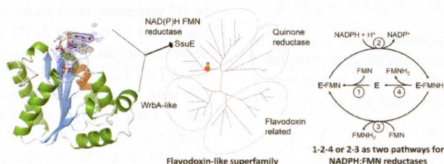


$$\Delta G^{\circ}_{37, \text{trint bulge}} = (\Delta G^{\circ}_{\text{bulged nucleotides}}) + (\Delta G^{\circ}_{\text{GU or AU closing pair}})$$

$$\Delta G^{\circ}_{37, \text{trint bulge}} = (\Delta G^{\circ}_{3R} \text{ or } \Delta G^{\circ}_{3Y} \text{ or } \Delta G^{\circ}_{2R,1Y} \text{ or } \Delta G^{\circ}_{1R,2Y}) + (\Delta G^{\circ}_{\text{GU and/or AU}})$$

Crystal Structure of *Escherichia coli* SsuE: Defining a General Catalytic Cycle for FMN Reductases of the Flavodoxin-like Superfamily

Camden M. Driggers, Paritosh V. Dayal, Holly R. Ellis, and P. Andrew Karplus*



Additions and Corrections

3520

[dx.doi.org/10.1021/bi5005415](https://doi.org/10.1021/bi5005415)

Correction to Human Prefoldin Inhibits Amyloid- β (A β) Fibrillation and Contributes to Formation of Nontoxic A β Aggregates

Karin Margareta Sörgjerd, Tamotsu Zako,* Masafumi Sakono, Peter C. Stirling, Michel R. Leroux, Takashi Saito, Per Nilsson, Misaki Sekimoto, Takaomi C. Saido, and Mizuo Maeda*

3521

[dx.doi.org/10.1021/bi500563d](https://doi.org/10.1021/bi500563d)

Correction to Addition of α A-Crystallin Sequence 164–173 to a Mini-Chaperone DFVFLDVKHFSPEDLT Alters the Conformation but Not the Chaperone-like Activity

Murugesan Raju, Puttur Santhoshkumar, Leike Xie, and K. Krishna Sharma*