

Jie-Oh LEE); Structure-Function Relationships of the G Domain, a Canonical Switch Motif (Alfred WITTINGHOFER, Ingrid R. VETTER); STIM Proteins and the Endoplasmic Reticulum-Plasma Membrane Junctions (Silvia CARRASCO, Tobias MEYER); Amino Acid Signaling in TOR Activation (Joungmok KIM, Kun-Liang GUAN); Mitochondrial tRNA Import and Its Consequences for Mitochondrial Translation (André SCHNEIDER); Caspase Substrates and Cellular Remodeling (Emily D. CRAWFORD, James A. WELLS); Regulation of HSF1 Function in the Heat Stress Response: Implications in Aging and Disease (Julius ANCKAR, Lea SISTONEN).

Ein Autorenindex für die Bände 76 bis 80 ergänzt den vorliegenden Band. Außerdem ist ein kumulierender Index der Themengebiete für die Bände 76 bis 80 angefügt. Somit ist der Band 80 des Annual Review of Biochemistry – wie die vorhergehenden – eine wertvolle Informationsquelle biochemischer Literatur. Außerdem ist der Band online unter <http://biochem.annualreviews.org> verfügbar.

Annual Review of Biochemistry, Vol. 81, 2012. Eds.: Roger D. KORNBERG, James E. ROTHMAN, JoAnne STUBBE, Jeremy W. THORNER. Palo Alto Calif., USA, Annual Reviews, 838 S., ISBN 978-0-8243-0881-0, ISSN 0066-4154.

Der vorliegende Band 81 beginnt mit einem Vorwort von JoAnne STUBBE: „Preface and Dedication to Christian R.H. Raetz“, es folgen einleitende Artikel von Walter NEUPERT: „A Mitochondrial Odyssey“ und von Gottfried SCHATZ: „The Fires of Life“.

Weitere Übersichtsartikel zu folgenden Themenbereichen der Biochemie schließen sich an:

Chromatin, Epigenetics, and Transcription Theme

Introduction to Theme „Chromatin, Epigenetics, and Transcription“ (Joan W. CONAWAY); The COMPASS Family of Histone H3K4 Methylases: Mechanisms of Regulation in Development and Disease Pathogenesis (Ali SHILATIFARD); Programming of DNA Methylation Patterns (Howard CEDAR, Yehudit BERGMAN); RNA Polymerase II Elongation Control (Qiang ZHOU, Tiandao LI, David H. PRICE); Genome Regulation by Long Noncoding RNAs (John L. RINN, Howard Y. CHANG).

Protein Tagging Theme

The Ubiquitin System, an Immense Realm (Alexander VARSHAVSKY); Ubiquitin and Proteasomes in Transcription (Fuqiang GENG, Sabine WENZEL, William P. TANSEY); The Ubiquitin Code (David KOMANDER, Michael RAPE); Ubiquitin and Membrane Protein Turnover: From Cradle to Grave (Jason A. MACGURN, Pi-Chiang HSU, Scott D. EMR); The N-End Rule Pathway (Takafumi TASAKI, Shashikanth M. SRIRAM, Kyong Soo PARK, Yong Tae KWON); Ubiquitin-Binding Proteins: Decoders of Ubiquitin-Mediated Cellular Functions (Koraljka HUSNJAK, Ivan DIKIC); Ubiquitin-Like Proteins (Annemarie G. VAN DER VEEN, Hidde L. PLOEGH).

Recent Advances in Biochemistry

Toward the Single-Hour High-Quality Genome (Patrik L. STÄHL, Joakim LUNDEBERG); Mass Spectrometry-Based Proteomics and Network Biology (Ariel BENSIMON, Albert J.R. HECK, Ruedi AEBERSOLD); Membrane Fission: The Biogenesis of Transport Carriers (Felix CAMPELO, Vivek MALHOTRA); Emerging Paradigms for Complex Iron-Sulfur Cofactor Assembly and Insertion (John W. PETERS, Joan B. BRODERICK); Structural Perspective of Peptidoglycan Biosynthesis and Assembly (Andrew L. LOVERING,

Susan S. SAFADI, Natalie C.J. STRYNADKA); Discovery, Biosynthesis, and Engineering of Lantipeptides (Patrick J. KNERR, Wilfred A. VAN DER DONK); Regulation of Glucose Transporter Translocation in Health and Diabetes (Jonathan S. BOGAN); Structure and Regulation of Soluble Guanylate Cyclase (Emily R. DERBYSHIRE, Michael A. MARLETTA); The MPS1 Family of Protein Kinases (Xuedong LIU, Mark WINEY); The Structural Basis for Control of Eukaryotic Protein Kinases (Jane A. ENDICOTT, Martin E.M. NOBLE, Louise N. JOHNSON); Measurements and Implications of the Membrane Dipole Potential (Liguo WANG); GTPase Networks in Membrane Traffic (Emi MIZUNO-YAMASAKI, Felix RIVERA-MOLINA, Peter NOVICK); Roles for Actin Assembly in Endocytosis (Olivia L. MOOREN, Brian J. GALLETTA, John A. COOPER); Lipid Droplets and Cellular Lipid Metabolism (Tobias C. WALTHER, Robert V. FARESE JR.); Adipogenesis: From Stem Cell to Adipocyte (Qi Qun TANG, M. Daniel LANE); Pluripotency and Nuclear Reprogramming (Marion DEJOSEZ, Thomas P. ZWAKA); Endoplasmic Reticulum Stress and Type 2 Diabetes (Sung Hoon BACK, Randal J. KAUFMAN); Structure Unifies the Viral Universe (Nicola G.A. ABRESCIA, Dennis H. BAMFORD, Jonathan M. GRIMES, David I. STUART).

Ein Autorenindex und ein Verzeichnis der Themengebiete für die Bände 77 bis 81 ergänzen den vorliegenden Band. Auch Band 81 des Annual Review of Biochemistry ist online unter <http://biochem.annualreviews.org> verfügbar.

Annual Review of Biochemistry, Vol. 82, 2013. Eds.: Roger D. KORNBERG, James E. ROTHMAN, JoAnne STUBBE, Jeremy W. THORNER. Palo Alto Calif., USA, Annual Reviews, 814 S., ISBN 978-0-8243-0882-7, ISSN 0066-4154.

Band 82 beginnt mit einem einleitenden Artikel zu Ehren des verstorbenen Wissenschaftlers Professor Christian RAETZ mit dem Titel: „Christian Raetz: Scientist and Friend Extraordinaire“ (William DOWHAN, Hiroshi NIKAIKO, JoAnne STUBBE, John W. KOZARICH, William T. WICKNER, David W. RUSSELL, Teresa A. GARRETT, Kathryn BROZEK, Paul MODRICH).

Weitere Übersichtsartikel zu folgenden Themenbereichen der Biochemie schließen sich an:

Mechanisms for Initiating Cellular DNA Replication (Alessandro COSTA, Iris V. HOOD, James M. BERGER); The Chromatin Response to DNA Breaks: Leaving a Mark on Genome Integrity (Godelieve SMEENK, Haico VAN ATTIKUM); Readout of Epigenetic Modifications (Dinshaw J. PATEL, Zhanxin WANG); Flap Endonuclease 1 (Lata BALAKRISHNAN, Robert A. BAMBARA); New Mechanistic and Functional Insights into DNA Topoisomerases (Stefanie HARTMAN CHEN, Nei-Li CHAN, Tao-shih HSIEH); Arrest Peptides: Cis-Acting Modulators of Translation (Koreaki ITO, Shinobu CHIBA); Structural Basis of the Translational Elongation Cycle (Rebecca M. VOORHEES, V. RAMAKRISHNAN); CRISPR-Mediated Adaptive Immune Systems in Bacteria and Archaea (Rotem SOREK, C. Martin LAWRENCE, Blake WIEDENHEFT); Correlating Structure and Energetics in Protein-Ligand Interactions: Paradigms and Paradoxes (Stephen F. MARTIN, John H. CLEMENTS); Extracellular Chaperones and Proteostasis (Amy R. WYATT, Justin J. YERBURY, Heath ECROYD, Mark R. WILSON); Molecular Chaperone Functions in Protein Folding and Proteostasis (Yujin E. KIM, Mark S. HIPPEL, Andreas BRACHER, Manajit HAYER-HARTL, F. Ulrich HARTL); SUMOylation: A Regulatory Protein Modification in Health and Disease (Annette FLOTHO, Frauke MELCHIOR); Ubiquitin Ligases and Cell Cycle Control (Leonardo K. TEIXEIRA, Steven I. REED);

Molecular Architecture and Assembly of the Eukaryotic Proteasome (Robert J. TOMKO JR., Mark HOCHSTRASSER); Design of Protein Catalysts (Donald HILVERT); Hydrogen Tunneling Links Protein Dynamics to Enzyme Catalysis (Judith P. KLINMAN, Amnon KOHEN); Methylethylthritol Phosphate Pathway of Isoprenoid Biosynthesis (Lishan ZHAO, Wei-chen CHANG, Youli XIAO, Hung-wen LIU, Pinghua LIU); Posttranslational Biosynthesis of the Protein-Derived Cofactor Tryptophan Tryptophylquinone (Victor L. DAVIDSON, Carrie M. WILMOT); Mitochondrial Complex I (Judy HIRST); Photosystem II: The Reaction Center of Oxygenic Photosynthesis (David J. VINYARD, Gennady M. ANANYEV, G. Charles DISMUKES); The Voltage-Gated Calcium Channel Functions as the Molecular Switch of Synaptic Transmission (Daphne ATLAS); Sphingosine-1-Phosphate and Its Receptors: Structure, Signaling, and Influence (Hugh ROSEN, Raymond C. STEVENS, Michael HANSON, Edward ROBERTS, Michael B.A. OLDSTONE); Membrane Fission Reactions of the Mammalian ESCRT Pathway (John McCULLOUGH, Leremy A. COLF, Wesley I. SUNDQUIST); Signal Recognition Particle: An Essential Protein-Targeting Machine (David AKOPIAN, Kuang SHEN, Xin ZHANG, Shu-ou SHAN); Peroxisome Formation and Maintenance Are Dependent on the Endoplasmic Reticulum (Henk F. TABAK, Ineke BRAAKMAN, Adabella VAN DER ZAND); Systemic Amyloidoses (Luis M. BLANCAS-MEJIA, Marina RAMIREZ-ALVARADO); Nanobodies: Natural Single-Domain Antibodies (Serge MUYLDERMANS).

Ein Autorenindex für die Bände 78 bis 82 ergänzt den vorliegenden Band. Außerdem ist ein kumulierender Index der Titel, geordnet nach Themengebieten für die Bände 78 bis 82 angefügt. Auch Band 82 ist online unter <http://biochem.annualreviews.org> verfügbar.

Sabine REDLHAMMER (JKI Braunschweig)

Annual Review of Genetics, Vol. 46, 2012. Eds.: Bonnie L. BASSLER, Michael LICHTEN, Gertrud SCHÜPBACH. Palo Alto, California, USA, Annual Reviews, 724 S., ISBN 978-0-8243-1246-6, ISSN 0066-4197.

Band 46 des Annual Review of Genetics beginnt mit einem Artikel von Gioacchino NATOLI und Jean-Cristophe ANDRAU mit dem Titel: Noncoding Transcription at Enhancers: General Principles and Functional Models.

Folgende Übersichtsartikel aus dem Gesamtgebiet der Genetik schließen sich an:

Transposable Elements: An Abundant and Natural Source of Regulatory Sequences for Host Genes (Rita REBOLLO, Mark T. ROMANISH, Dixie L. MAGER); Disentangling the Many Layers of Eukaryotic Transcriptional Regulation (Katherine M. LELLI, Matthew SLATTERY, Richard S. MANN); Biosynthesis and Function of Posttranscriptional Modifications of Transfer RNAs (Basma EL YACOUBI, Mare BAILLY, Valérie de CRÉCY-LAGARD); Generics of Reproduction and Regulation of Honeybee (*Apis mellifera* L.) Social Behavior (Robert E. PAGE JR., Olav RUEPPELL, Gro V.

AMDAM); Chromosome Replication and Segregation in Bacteria (Rodrigo REYES-LAMOTHE, Emilien NICOLAS, David J. SHERRATT); Genetics of Aggression (Robert R.H. ANHOLT, Trudy F.C. MACKAY); The Unfolded Protein Response in Secretory Cell Function (Kristin A. MOORE, Julie HOLLIER); Generics of Climate Change Adaptation (Steven J. FRANKS, Ary A. HOFFMANN); Border Crossings: Colicins and Transporters (Karen S. JAKES, William A. CRAMER); The Biosynthetic Capacities of the Plastids and Integration Between Cytoplasmic and Chloroplast Processes (Norbert ROLLAND, Gilles CURIEN, Giovanni FINAZZI, Marcel KUNTZ, Eric MARÉCHAL, Michel MATRINGE, Stéphane RAVANEL, Daphné SEIGNEURIN-BERNY); Fusion and Fission: Interlinked Processes Critical for Mitochondrial Health (David C. CHAN); Regeneration and Transdetermination in *Drosophila* Imaginal Discs (Melanie I. WORLEY, Linda SETIAWAN, Iswar K. HARIHARAN); The CRISPRs, They Are A-Changin': How Prokaryotes Generate Adaptive Immunity (Edze R. WESTRA, Daan C. SWARTS, Raymond H.J. STAALS, Matthijs M. JORE, Stan J.J. BROUNS, John VAN DER OOST); Evolutionary Implications of Horizontal Gene Transfer (Michael SYVANEN); Plant Virus Metagenomics: Biodiversity and Ecology (Marilyn J. ROOSSINCK); Probing Mechanisms That Underlie Human Neurodegenerative Disease in *Drosophila* (M. JAISWAL, H. SANDOVAL, K. ZHANG, V. BAYAT, H.J. BELLEN); Uncovering the Molecular and Cellular Mechanisms of Heart Development Using the Zebrafish (David STAUDT, Didier STAINIER); 5-Methylcytosine DNA Demethylation: More Than Losing a Methyl Group (Don-Marc FRANCHINI, Kerstin-Maike SCHMITZ, Svend K. PETERSEN-MAHRT); RNA as a Structural and Regulatory Component of the Centromere (Jonathan I. GENT, R. Kelly DAWE); Mutations Arising During Repair of Chromosome Breaks (Anna MALKOVA, James E. HABER); Recessively Inherited Forms of Osteogenesis Imperfecta (Peter H. BYERS, Shawna M. PYOTT); Neural Regeneration in *Caenorhabditis elegans* (Rachid EL BEJANI, Marc HAMMARLUND); Genetics of *Borrelia burgdorferi* (Dustin BRISSON, Dan DRECKTRAH, Christian H. EGGERS, D. Scott SAMUELS); Dosage Compensation of the Sex Chromosomes (Christine M. DISTECHE); Memories from the Polycomb Group Proteins (Chiara LANZUOLO, Valerio ORLANDO); Understanding the Relationship Between Brain Gene Expression and Social Behavior: Lessons from the Honey Bee (Amro ZAYED, Gene E. ROBINSON); Identity by Descent Between Distant Relatives: Detection and Applications (Sharon R. BROWNING, Brian L. BROWNING); Paleopopulation Genetics (Jeffrey D. WALL, Montgomery SLATKIN); Active Transposition in Genomes (Cheng Ran Lisa HUANG, Kathleen H. BURNS, Jef D. BOEKE); Rules of Engagement: Molecular Insights from Host-Virus Arms Races (Matthew D. DAUGHERTY, Harmit S. MALIK); Brassinosteroid Signaling Network and Regulation of Photomorphogenesis (Zhi-Yong WANG, Ming-Yi BAI, Eunkyoo OH, Jia-Ying ZHU).

Der Band ist online unter <http://genet.annualreviews.org> verfügbar.

Ebenso wie vorher erschienene Bände dieser Buchreihe bietet Band 46 des Annual Review of Genetics wertvolle Informationen aus dem gesamten Forschungsgebiet der Genetik.

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