

LXIII: Mechanisms of Transcription

1998

[HOME](#) | [HISTORY OF THE SYMPOSIA](#) | [LIST OF SYMPOSIA](#) | [USE OF IMAGES](#)
[JUMP TO YEAR](#)

Contents

[SYMPOSIUM SYNOPSIS](#) ▶

[LIST OF PARTICIPANTS](#) ▶

[CONTENTS OF SYMPOSIUM VOLUME](#)
[VIEW THUMBNAILS FOR YEAR](#) ▶

[SEARCH FOR PHOTOGRAPHS BY NAME:](#)

Symposium Participants v

Foreword xix

Dedication xxv

Promoter Recognition and Initiation

Transcription Regulation by Repressosome and by RNA Polymerase Contact S. Adhya, M. Geanacopoulos, D.E.A. Lewis, S. Roy, and T. Aki 1

RNA Polymerase-DNA Interaction: Structures of Intermediate, Open, and Elongation Complexes R.H. Ebright 11

The Initiator Element: A Paradigm for Core Promoter Heterogeneity within Metazoan Protein-coding Genes S.T. Smale, A. Jain, J. Kaufmann, K.H. Emami, K. Lo, and I.P. Garraway 21

X-ray Crystallographic Studies of Eukaryotic Transcription Factors S.K. Burley 33

Transcription in Archaea S.D. Bell and S.P. Jackson 41

Polarity of Transcription on Pol II and Archaeal Promoters: Where Is the "One-way Sign" and How Is It Read? F.T.F. Tsai, O. Littlefield, P.F. Kosa, J.M. Cox, A. Schepartz, and P.B. Sigler 53

Transcriptional Regulation by DNA Structural Transitions and Single-stranded DNA-binding Proteins L.B. Rothman-Denes, X. Dai, E. Davydova, R. Carter, and K. Kazmierczak 63

The DPE, a Conserved Downstream Core Promoter Element That Is Functionally Analogous to the TATA Box T.W. Burke, P.J. Willy, A.K. Kutach, J.E.F. Butler, and J.T. Kadonaga 75

The RNA Polymerase II General Transcription Factors: Past, Present, and Future D. Reinberg, G. Orphanides, R. Ebright, S. Akoulitchev, J. Carcamo, H. Cho, P. Cortes, R. Drapkin, O. Flores, I. Ha, J.A. Inostroza, S. Kim, T.-K. Kim, P. Kumar, T. Lagrange, G. LeRoy, H. Lu, D.-M. Ma, E. Maldonado, A. Merino, F. Mermelstein, I. Olave, M. Sheldon, R. Shiekhattar, N. Stone, X. Sun, L. Weis, K. Yeung, and L.

Zawel 83

Ten Years of TFIIH F. Coin and J.-M. Egly 105

Crossing the Line between RNA Polymerases: Transcription of Human snRNA Genes by RNA Polymerases II and III R.W. Henry, E. Ford, R. Mital, V. Mittal, and N. Hernandez 111

Transcription Factor IIIB: The Architecture of Its DNA Complex, and Its Roles in Initiation of Transcription by RNA Polymerase III A. Kumar, A. Grove, G.A. Kassavetis, and E.P. Geiduschek 121

Strength and Regulation without Transcription Factors: Lessons from Bacterial rRNA Promoters R.L. Gourse, T. Gaal, S.E. Aiyar, M.M. Barker, S.T. Estrem, C.A. Hirvonen, and W. Ross 131

Activation

The Functional and Regulatory Roles of Sigma Factors in Transcription C.A. Gross, C. Chan, A. Dombroski, T. Gruber, M. Sharp, J. Tupy, and B. Young 141

The Bacterial Enhancer-binding Protein NtrC as a Molecular Machine I. Rombel, A. North, I. Hwang, C. Wyman, and S. Kustu 157

Gene Transcription by Recruitment Z. Zaman, A.Z. Ansari, L. Gaudreau, J. Nevado, and M. Ptashne 167

Use of Artificial Activators to Define a Role for Protein-Protein and Protein-DNA Contacts in Transcriptional Activation S.L. Dove and A. Hochschild 173

Activation and the Role of Reinitiation in the Control of Transcription by RNA Polymerase II S. Hahn 181

Cofactor Requirements for Transcriptional Activation by Sp1 A.M. När, S. Ryu, and R. Tjian 189 Role of General and Gene-specific Cofactors in the Regulation of Eukaryotic Transcription R.G. Roeder 201

Functional Analysis of TFIID Components W.-C. Shen, L.M. Apone, C.-M.A. Virbasius, X.-Y. Li, M. Monsalve, and M.R. Green 219

Mechanism and Regulation of Yeast RNA Polymerase II Transcription R.D. Kornberg 229

Functional and Structural Analysis of the Subunits of Human Transcription Factor TFIID I. Davidson, C. Romier, A.-C. Lavigne, C. Birck, G. Mengus, O. Poch, and D. Moras 233

Mechanisms of Viral Activators A.J. Berk, T.G. Boyer, A.N. Kapanidis, R.H. Ebright N.N. Kobayashi, P.J. Horn, S.M. Sullivan, R. Koop, M.A. Surby, and S.J. Triezenberg 243

Cooperative Assembly of RNA Polymerase II Transcription Complexes K. Ellwood, T. Chi, W. Huang, K. Mitsouras, and M. Carey 253

RNA Polymerase

Transcription Regulation, Initiation, and "DNA Scrunching" by T7 RNA Polymerase G.M.T. Cheetham, D. Jeruzalmi, and T.A. Steitz 263

Structural Studies of Escherichia coli RNA Polymerase S.A. Darst, A. Polyakov, C. Richter, and G. Zhang 269

Interaction of Escherichia coli σ 70 with Core RNA Polymerase R.R. Burgess, T.M. Arthur, and B.C. Pietz 277

The Transition from Initiation to Elongation by RNA Polymerase II D.S. Luse and I. Samkurashvili 289

Role of RNA Polymerase II Carboxy-terminal Domain in Coordinating Transcription with RNA Processing S. McCracken, E. Rosonina, N. Fong, M. Sikes, A. Beyer, K. O'Hare, S. Shuman, and D. Bentley 301

Fractions to Functions: RNA Polymerase II Thirty Years Later N.A. Woychik 311

Elongation and Termination

Antitermination by Bacteriophage I Q Protein J.W. Roberts, W. Yarnell, E. Bartlett, J. Guo, M. Marr, D.C. Ko, H. Sun, and C.W. Roberts 319

Structure and Mechanism in Transcriptional Antitermination by the Bacteriophage I N Protein J. Greenblatt, T.-F. Mah, P. Legault, J. Mogridge, J. Li, and L.E. Kay 327

Mechanistic Model of the Elongation Complex of Escherichia coli RNA Polymerase N. Korzheva, A. Mustaev, E. Nudler, V. Nikiforov, and A. Goldfarb 337

Promoter-associated Pausing in Promoter Architecture and Postinitiation Transcriptional Regulation J. Lis 347

Mechanism of Promoter Escape by RNA Polymerase II J.W. Conaway, A. Dvir, R.J. Moreland, Q. Yan, B.J. Elmendorf, S. Tan, and R.C. Conaway 357

RNA Polymerase II Elongation Control J. Peng, M. Liu, J. Marion, Y. Zhu, and D.H. Price 365

HIV-1 Tat Interacts with Cyclin T1 to Direct the P-TEFb CTD Kinase Complex to TAR RNA M.E. Garber, P. Wei, and K.A. Jones 371

The Yeast RNA Polymerase III Transcription Machinery: A Paradigm for Eukaryotic Gene Activation S. Chédin, M.L. Ferri, G. Peyroche, J.C. Andrau, S. Jourdain, O. Lefebvre, M. Werner, C. Carles, and A. Sentenac 381

Repression Mechanisms

The Regulation of Gene Activity by Histones and the Histone Deacetylase RPD3 N. Suka, A.A. Carmen, S.E. Rundlett, and M. Grunstein 391

Targeting Sir Proteins to Sites of Action: A General Mechanism for Regulated Repression M. Cockell, M. Gotta, F. Palladino, S.G. Martin, and S.M. Gasser 401

Activation and Repression Mechanisms in Yeast K. Struhl, D. Kadosh, M. Keaveney, L. Kuras, and Z. Moqtaderi 413

The Mad Protein Family Links Transcriptional Repression to Cell Differentiation G.A. McArthur, C.D. Laherty, C. Quéva, P.J. Hurlin, L. Loo, L. James, C. Grandori P. Gallant, Y. Shiio, W.C. Hokanson, A.C. Bush, P.F. Cheng, Q.A. Lawrence, B. Pulverer, P.J. Koskinen, K.P. Foley, D.E. Ayer, and R.N. Eisenman 423

Histone Deacetylase Directs the Dominant Silencing of Transcription in Chromatin: Association with MeCP2 and the Mi-2 Chromodomain SWI/SNF ATPase P.A. Wade, P.L. Jones, D. Vermaak, G.J.C. Veenstra, A. Imhof, T. Sera, C. Tse, H. Ge, Y.-B. Shi, J.C. Hansen, and A.P. Wolffe 435

Gene Regulation by the Yeast Ssn6-Tup1 Corepressor M. Wahi, K. Komachi, and A.D. Johnson 447

In Vivo Functions of Histone Acetylation/Deacetylation in Tup1p Repression and Gcn5p Activation D.G. Edmondson, W. Zhang, A. Watson, W. Xu, J.R. Bone, Y. Yu, D. Stillman, and S.Y. Roth 459

Chromosome Structure and Transcription

Signaling to Chromatin through Histone Modifications: How Clear Is the Signal? C. Mizzen, M.-H. Kuo, E. Smith, J. Brownell, J. Zhou, R. Ohba, Y. Wei, L. Monaco, P. Sassone-Corsi, and C.D. Allis 469

Regulation of Transcription by Multisubunit Complexes That Alter Nucleosome Structure D.J. Steger, R.T. Utley, P.A. Grant, S. John, A. Eberharter, J. Côté, T. Owen-Hughes, K. Ikeda, and J.L. Workman 483

TBP-associated Factors in the PCAF Histone Acetylase Complex T. Kotani, X. Zhang, R.L. Schiltz, V.V. Ogryzko, T. Howard, M.J. Swanson, A. Vassilev, H. Zhang, J. Yamauchi, B.H. Howard, J. Qin, and Y. Nakatani 493

Structure of the Yeast Histone Acetyltransferase Hat1: Insights into Substrate Specificity and Implications for the Gcn5-related N-acetyltransferase Superfamily R.N. Dutnall, S.T. Tafrov, R. Sternglanz, and V. Ramakrishnan 501

The Establishment of Active Chromatin Domains A. Bell, J. Boyes, J. Chung, M. Pikaart, M.-N. Prioleau, F. Recillas, N. Saitoh, and G. Felsenfeld 509

Nuclear Matrix Attachment Regions Confer Long-range Function

upon the Immunoglobulin m Enhancer L.A. Fernández, M. Winkler, W. Forrester, T. Jenuwein, and R. Grosschedl 515

Remodeling Chromatin

ATP-dependent Remodeling of Chromatin C. Wu, T. Tsukiyama, D. Gdula, P. Georgel, M. Martínez-Balbás, G. Mizuguchi, V. Ossipow, R. Sandaltzopoulos, and H.-M. Wang 525

A Model for Chromatin Remodeling by the SWI/SNF Family G.R. Schnitzler, S. Sif, and R.E. Kingston 535

SWI/SNF Complex: Dissection of a Chromatin Remodeling Cycle C.L. Peterson 545
The SAGA of Spt Proteins and Transcriptional Analysis in Yeast: Past, Present, and Future F. Winston and P. Sudarsanam 553

Specificity of ATP-dependent Chromatin Remodeling at the Yeast PHO5 Promoter E.S. Haswell and E.K. O'Shea 563

Role of Chromatin Structure and Distal Enhancers in Tissue-specific Transcriptional Regulation In Vitro R. Bagga, J.A. Armstrong, and B.M. Emerson 569

Regulatory Complexes and Pathways

The Transcriptional Basis of Steroid Physiology R.J. Lin, H.-Y. Kao, P. Ordentlich, and R.M. Evans 577

Building Transcriptional Regulatory Complexes: Signals and Surfaces K.R. Yamamoto, B.D. Darimont, R.L. Wagner, and J.A. Iñiguez-Lluhí 587

The Herpes Simplex Virus VP16-induced Complex: Mechanisms of Combinatorial Regulation W. Herr 599

Structure and Function of the Interferon- β Enhanceosome T. Maniatis, J.V. Falvo, T.H. Kim, T.K. Kim, C.H. Lin, B.S. Parekh, and M.G. Wathelet 609

Autoinhibition as a Transcriptional Regulatory Mechanism B.J. Graves, D.O. Cowley, T.L. Goetz, J.M. Petersen, M.D. Jonsen, and M.E. Gillespie 621

Mechanisms of Activation by CREB and CREM: Phosphorylation, CBP, and a Novel Coactivator, ACT G.M. Fimia, D. De Cesare, and P. Sassone-Corsi 631

Regulation of SRF Activity by Rho Family GTPases R. Treisman, A.S. Alberts, and E. Sahai 643

Summary: Three Decades after Sigma R. Losick 653