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Messenger RNA and Ribosomes in Protein Synthesis

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The Biochemical Society's Forty-Seventh Symposium, held in London in December 1981, assembled some of the leading workers in this area of biochemistry. The subjects for discussion were chosen for their timeliness and distinctiveness, and included accounts of ribosome and messenger RNA structure and function, initiation factors, caps and ribonucleoproteins, as well as consideration of the processes leading to the distribution of newly synthesized proteins within the cell. The papers presented are now published in this volume.

List of contents and authors:

Preface. Prokaryotic Ribosome Structure: a Kinetic View by C. G. Kurland. Structural Aspects of Eukaryotic Ribosomes by R. A. Cox & J. M. Kelly. The Secondary Structure of Ribosomal RNA, and its Organization within the Ribosomal Subunits by R. Brimacombe. Secondary Structure of Eukaryotic Messenger RNA by C. P. H. Vary & J. N. Vournakis. Studies on the Structure and Biogenesis of Yeast Ribosomes by M. Cannon. Translation Mechanism in Prokaryotes: Structure and Expression of Escherichia coli Initiation Factor IF3 Gene by M. Grunberg-Manago, M. Springer, J. A. Plumbridge, S. Blanquet, G. Fayat & C. Sacerdot. How do Eukaryotic Ribosomes Recognize the Unique AUG Initiator Codon in Messenger RNA? by M. Kozak. 5'-Terminal Caps, Cap-Binding Proteins and Eukaryotic mRNA Function by A. J. Shatkin, E. Darzynkiewicz, Y. Furuichi, H. Kroath, M. A. Morgan, S. M. Tahara & M. Yamakawa. Association of an M, 50000 Cap Binding Protein with the Cytoskeleton in BHK Cells by H. Trachsel, A. Zumbé, C. Stähli, M. Hümbelin & N. Sonenberg. Messenger Ribonucleoprotein Complexes in Gene Expression by H. R. V. Arnstein. Mechanism of Protein Translocation Across the Endoplasmic Reticulum by P. Walter & G. Blobel. Synthesis and Maturation of the Erythrocyte Anion Transport Protein — an Internal Sequence for Membrane Insertion by H. F. Lodish & W. A. Braell. Subject Index.

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Related heme proteins which may also involve the highervalent FeO species include the catalases, peroxidases, and chloroperoxidases which play the crucial roles in the decomposition of H₂O₂, oxidation of organic compounds, and chlorination via the oxidation of halide ion, respectively. In the plant kingdom, hemes derived from reduced porphyrins (chlorin and isobacteriochlorin) are also found to be responsible for the binding and reduction of soil nitrite to ammonia.³

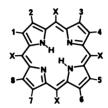
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- Dolphin, D., Ed. "The Porphyrins"; Academic Press: New York, 1978-79; Vols. I-VII.
- Smith, K.M., Ed. "Porphyrins and Metalloporphyrins"; Elsevier: New York, 1975.
- 3) Losada, M. J. Mol. Catal. 1976, 1, 245.



Etioporphyrin I: X = H; 1,3,5,7 = Me; 2,4,6,8 = Et Deuteroporphyrin IX: X = H; 1,3,5,8 = Me; 2,4 = H; 6,7 = CH_2CO_2H

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