

Nonsense Mutations and tRNA Suppressors

edited by **J. E. Celis and J. D. Smith**
May 1979, x+350pp., £16.00 0.12.164550.9

From the preface:

"The main aim of the book is to introduce the reader to Laboratory Course and Aarhus University 50 Years Anniversary Symposium on 'Nonsense mutations and tRNA suppressors' held in Aarhus in July 1978.

"Nonsense mutations and their suppressors have played a key role in the genetics and study of gene expression in bacteria and yeast. Also our knowledge of transfer RNA genetics, biosynthesis and structure-function relationships has depended to a large extent on the tRNA suppressors. The possibility of developing similar suppression systems in higher eukaryotes has stimulated extensive research on the characterization of nonsense mutants and attempts to isolate nonsense suppressors in animal cells.

"This book is a record of the proceedings of the EMBO the field of translational suppression, specifically to nonsense mutations and tRNA suppressors. The book covers classic work on nonsense suppressors in prokaryotes and yeast as well as the latest developments in the search for nonsense mutations and tRNA suppressors in higher eukaryotes. To help the reader the book contains a few general chapters dedicated to tRNA and its role in protein synthesis as well as a compilation of wild type and mutant tRNA sequences."

This is the first thorough coverage of the subject and will be of the greatest interest to researchers and post-graduates in genetics, molecular biology, biochemistry, cell biology and microbiology, both as a reference book and as a way of catching up on the most recent work in the field.

Academic Press

London New York San Francisco

A Subsidiary of Harcourt Brace Jovanovich, Publishers

24-28 Oval Road, London NW1, England

111 Fifth Avenue, New York, NY 10003, USA

PO Box 300, North Ryde, NSW 2113, Australia

Contents include

Transfer RNA and Protein Biosynthesis

B. F. C. Clark: Structure and function of tRNA.

C. J. Bruton: Probing the sub-structure, evolution and interactions of aminoacyl-tRNA synthetases.

Nonsense Suppressors in Bacteria and Yeast

J. D. Smith: Suppressor tRNAs in prokaryotes.

J. H. Miller, C. Coulondre, U. Schmeissner, A. Schmitz, M. Hofer and D. Galas: The use of suppressed nonsense mutations to generate altered repressors

Biosynthesis of Transfer RNA

S. Altman: Biosynthesis of suppressor transfer RNA.

N. O. Kjeldgaard: Control mechanisms of the formation of ribosomal RNA and transfer RNA and the synthesis of guanosine tetraphosphate.

Nonsense Mutants in Higher Eukaryotes

L. Philipson: Can suppressor tRNA control translation in mammalian cells?

Compilation of tRNA Sequences

M. Sprinzi, F. Grüter and D. H. Gauss: Compilation of tRNA sequences.



GENETICAL RESEARCH

VOLUME 34, NUMBER 2, OCTOBER 1979

CONTENTS

BLAKLEY, ANN. Embryonic bone growth in lines of mice selected for large and small body size	page 77
MACDONALD, MARY V. and WHITEHOUSE, HAROLD L. K. A buff spore colour mutant in <i>Sordaria brevicollis</i> showing high-frequency conversion	87
SINGH, MAHAVIR and SINHA, UMAKANT. Isolation and characterization of a new class of amino-acid-analogue-resistant mutants in <i>Aspergillus nidulans</i> using reduced carbon flow	121
HONEY, N. K., POULTER, R. T. M. and TEALE, D. M. Genetic regulation of differentiation in <i>Physarum polycephalum</i>	131
JOWETT, TREVOR and SANG, JAMES H. Nutritional regulation of antennal/leg homoeotic mutants in <i>Drosophila melanogaster</i>	143
TSUKII, YUJI and HIWATASHI, KOICHI. Artificial induction of autogamy in <i>Paramecium caudatum</i>	163
MURRAY, VINCENT and HOLLIDAY, ROBIN. A mechanism for RNA-RNA splicing and a model for the control of gene expression	173
MOFFA, A. M. and WHITE, J. A. Heritability of cranium bifidum and spina bifida in the golden hamster	189
WILLETTS, NEIL and JOHNSON, GILLIAN. R.SmaI cleavage map of the transfer region of the <i>E. coli</i> K12 sex factor F	195

© Cambridge University Press 1979

CAMBRIDGE UNIVERSITY PRESS

The Pitt Building, Trumpington Street, Cambridge CB2 1RP
32 East 57th Street, New York, N.Y. 10022

Printed in Great Britain at the University Press, Cambridge