

## CONTENTS OF VOLUME 115, No. 3, 1969

	PAGE		PAGE
Transcription of bacteriophage T4 deoxyribonucleic acid <i>in vitro</i> . By <b>J. O. Bishop</b> and <b>F. W. Robertson</b>	353	Radiochemical micro assays for the determination of choline acetyltransferase and acetylcholinesterase activities. By <b>F. Fonnum</b>	465
<i>Appendix:</i> Methods for the analysis of deoxyribonucleic acid-ribonucleic acid hybridization data. By <b>J. O. Bishop, F. W. Robertson, J. A. Burns &amp; M. Melli</b>	361	Isolation of a third bovine neurophysin. By <b>R. Rauch, M. D. Hollenberg and D. B. Hope</b>	473
Goat immunoglobulin G. Peptide chains and terminal residues. By <b>D. Givol</b> and <b>E. Hurwitz</b>	371	The regulation of pea-seed phosphofructokinase by phosphoenolpyruvate. By <b>G. J. Kelly</b> and <b>J. F. Turner</b>	481
Comparison of the protein-synthesizing machinery in the skeletal muscle of normal and dystrophic Bar Harbor mice. By <b>D. C. Watts</b> and <b>J. D. Reid</b>	377	Androgen sulphate formation in male and female mice. By <b>D. A. Lewis</b>	489
A new approach to the analysis of hybridization of bacterial nucleic acids. Analysis of ribosomal ribonucleic acids of <i>Bacillus subtilis</i> . By <b>R. J. Avery</b> and <b>J. E. M. Midgley</b>	383	Arginine metabolism in insects. Role of arginase in proline formation during silkworm development. By <b>S. R. R. Reddy</b> and <b>J. W. Campbell</b>	495
An analysis of the ribosomal ribonucleic acids of <i>Escherichia coli</i> by hybridization techniques. By <b>R. J. Avery, J. E. M. Midgley and G. H. Pigott</b>	395	A sodium ion concentration gradient formed during the absorption of glycine by mouse ascites-tumour cells. By <b>A. A. Eddy</b>	505
The effect of dietary and hormonal conditions on the activities of glycolytic enzymes in rat epididymal adipose tissue. By <b>E. D. Saggerson</b> and <b>A. L. Greenbaum</b>	405	An automatic apparatus for the study of enzyme kinetics. By <b>J. A. Illingworth</b> and <b>K. F. Tipton</b>	511
The effect of magnesium ion deprivation on the synthesis of mucopeptide and its precursors in <i>Bacillus subtilis</i> . By <b>A. J. Garrett</b>	419	The effects of substrates on the optical rotatory dispersion of carnitine acetyltransferase. By <b>K. F. Tipton</b> and <b>J. F. A. Chase</b>	517
Molecular cohesion in plant cell walls. Methylation analysis of pectic polysaccharides from the cotyledons of white mustard. By <b>D. A. Rees</b> and <b>N. J. Wight</b>	431	Two fractions required for cell-free protein synthesis with components from rabbit reticulocytes. By <b>B. B. Cohen</b>	523
Calorimetric studies of the haemoglobin-haptoglobin reaction. By <b>E. C. Adams</b> and <b>M. R. Weiss</b>	441	The relationship between nitrogen fixation and the production of HD from D <sub>2</sub> by cell-free extracts of soya-bean nodule bacteroids. By <b>G. L. Turner</b> and <b>F. J. Bergersen</b>	529
The nature of the sex-linked differences in glutathione peroxidase activity and aerobic oxidation of glutathione in male and female rat liver. By <b>R. E. Pinto</b> and <b>W. Bartley</b>	449	Effects of insulin on the pattern of glucose metabolism in the perfused working and Lagendorff heart of normal and insulin-deficient rats. By <b>E. B. Chain, K. R. L. Mansford and L. H. Opie</b>	537
The cellulase of <i>Fusarium solani</i> . Resolution of the enzyme complex. By <b>T. M. Wood</b>	457	The effects of unsaturated fatty acids on hepatic microsomal drug metabolism and cytochrome P-450. By <b>R. P. Di Augustine</b> and <b>J. R. Fouts</b>	547
		Cholesterol esterification in rabbit plasma. By <b>V. Stefanovich</b>	555

	PAGE		PAGE
Quantitative determination of deoxyribonucleic acid in rat brain. By N. W. Penn and R. Suwalski . . . . .	563	Acetoacetylation of insulin. By D. G. Lindsay and S. Shall . . . . .	587
The enzymic hydroxylation of procollagen models. By Y. Kikuchi, D. Fujimoto and N. Tamiya . . . . .	569	The regulation of L-asparaginase activity in rats and mice. Effects of normal and malignant growth, of sex and of dietary changes. By E. Bonetti, A. Abbondanza, E. Della Corte and F. Stirpe . . . . .	597
Properties of the inactive ribosomal components in rat liver and hepatoma. By T. E. Webb and H. P. Morris . . . . .	575	SHORT COMMUNICATIONS	
Studies on the metabolism of steroids in the foetus. Biosynthesis of 6 $\alpha$ -hydroxytestosterone in the human foetal liver. By B. P. Lisboa and J.-Å. Gustafsson . . . . .	583	Utilization of L-threonine by a pseudomonad: a catabolic role for L-threonine aldolase. By J. G. Morris . . . . .	603
		Chemistry of the active site of rhodopsin. By M. Akhtar and M. D. Hirstenstein . . . . .	607

*Proceedings of the Biochemical Society*

	PAGE
Enzymology and blood coagulation. By M. P. ESNOUF . . . . .	1P
The chemistry of the activation of prothrombin. By S. MAGNUSSON . . . . .	2P
Prochymosin and chymosin (prorennin and rennin). By B. FOLTMANN . . . . .	3P
Kallikreins. By E. WERLE and F. FIEDLER . . . . .	4P
Purification and characterization of bovine enteroviruses. By M. D. JOHNSTON, S. J. MARTIN and J. B. CLEMENTS . . . . .	6P
The reaction catalysed by a partially purified nucleoside triphosphate-dependent deoxyribonucleic acid-breakdown system from <i>Mycobacterium smegmatis</i> . By F. G. WINDER and M. LAVIN . . . . .	6P
Fractionation of deoxyribonucleic acid from multiple-drug-resistant staphylococci on poly-L-lysine-kieselguhr columns. By M. MONAGHAN-CANNON and L. K. DUNICAN . . . . .	7P
Composition of the phospholipid fraction of <i>Corynebacterium diphtheriae</i> . By P. J. BRENNAN and D. P. LEHANE . . . . .	8P
The oxidation of acetate, ethanol and pyruvate by baker's yeast. By J. P. GOSLING and P. F. DUGGAN . . . . .	8P
Glycopeptide linkages in a phosphomannan peptide from yeast cell walls. By T. N. CAWLEY and R. LETTERS . . . . .	9P
The nature of the enzymically catalysed binding of glucose to the protein coat of <i>Colpoda steinii</i> cysts. By B. J. MARSHALL and J. TIBBS . . . . .	10P
Studies on the particle-bound carbohydrate sulphoamide sulphohydrolase and carbohydrate sulphate sulphohydrolase of <i>Flavobacterium heparinum</i> . By B. A. LAW, A. G. LLOYD, G. EMBERY and G. B. WISDOM . . . . .	10P
The linkage of corneal keratosulphate to protein. By J. R. BAKER, J. A. CIFONELLI and L. RODÉN . . . . .	11P
Observations on the enzymic sulphurylation of tyrosyl derivatives. By J. G. JONES, P. MATTOCK and D. BARFORD . . . . .	11P
Purification and partial characterization of peroxidase from red algae. By M. J. MURPHY and C. Ó HEOCHA . . . . .	12P
The amino acid sequence of penicillinase from <i>Bacillus licheniformis</i> . By R. J. MEADWAY . . . . .	12P
Breakdown of pyridine haemichrome by liver extracts. By E. COLLERAN and P. Ó CARRA . . . . .	13P
Coupled oxidation of myoglobin with ascorbate as a model of haem breakdown <i>in vivo</i> . By P. Ó CARRA and E. COLLERAN . . . . .	13P
The function of the non-specific adenylyl aminohydrolase of <i>Aspergillus oryzae</i> . By B. J. R. PITTS and B. A. ORSI . . . . .	14P
Purification of adenosine deaminase from bovine lung and spleen. By M. NOONAN and T. G. BRADY . . . . .	15P
The relationship between plasma and tissue vitamin E concentrations in man. By H. GRIMES and P. J. LEONARD . . . . .	15P

## CONTENTS

iii

	PAGE
The biosynthesis of $3\beta$ -hydroxyandrosta-5,16 $\beta$ -diene and its further metabolism in boar testis. By T. KATKOV and D. B. GOWER . . . . .	16 P
Phospholipases in cerebrospinal fluid and cell fractions of human brain. By D. R. ILLINGWORTH and J. GLOVER . . . . .	16 P
The proteolytic action of arvin on human fibrinogen. By M. R. EWART, M. HATTON, J. M. BASFORD and K. S. DODGSON . . . . .	17 P
The localization of peptidases in microvilli from the brush border of the proximal renal tubule of the rabbit. By A. J. KENNY, S. G. GEORGE and S. G. R. APARICIO . . . . .	18 P
The presence of pancreatic proteases in particulate preparations of rat intestinal mucosa. By J. F. WOODLEY and A. J. KENNY . . . . .	18 P
Primary phase of rennin action on whole milk. By G. SINKINSON and J. V. WHEELOCK . . . . .	19 P
Action of rennin on heat-sterilized milk. By E. J. HINDLE and J. V. WHEELOCK . . . . .	19 P
A component of human duodenal juice that affects intrinsic factor. By J. M. SCOTT, I. J. TEMPERLEY and D. G. WEIR . . . . .	20 P
The assay of $\alpha$ -amylase. By M. J. CLANCY and C. E. O'HARA . . . . .	21 P
Dissociation of $\beta$ -casein from casein micelles and complexes. By W. K. DOWNEY, R. F. MURPHY and S. A. AHERNE . . . . .	21 P
Dissociation of casein micelles to soluble casein complexes. By R. F. MURPHY, W. K. DOWNEY and R. D. KEARNEY . . . . .	22 P
Clinical biochemical analysis: the Baird and Tatlock Analmatic instrument. By D. W. NEILL and S. G. S. NESBITT . . . . .	22 P

## INDEX TO AUTHORS

	PAGE		PAGE
Abbondanza, A. . . . .	597	Eddy, A. A. . . . .	505
Adams, E. C. . . . .	441	Embery, G. . . . .	10 P
Aherne, S. A. . . . .	21 P	Esnouf, M. P. . . . .	1 P
Akhtar, M. . . . .	607	Ewart, M. R. . . . .	17 P
Aparicio, S. G. R. . . . .	18 P	Fiedler, F. . . . .	4 P
Avery, R. J. . . . .	383, 395	Foltmann, B. . . . .	3 P
Baker, J. R. . . . .	11 P	Fonnum, F. . . . .	465
Barford, D. . . . .	11 P	Fouts, J. R. . . . .	547
Bartley, W. . . . .	449	Fujimoto, D. . . . .	569
Basford, J. M. . . . .	17 P	Garrett, A. J. . . . .	419
Bergersen, F. J. . . . .	529	George, S. G. . . . .	18 P
Bishop, J. O. . . . .	353, 361	Givol, D. . . . .	371
Bonetti, E. . . . .	597	Glover, J. . . . .	16 P
Brady, T. G. . . . .	15 P	Gosling, J. P. . . . .	8 P
Brennan, P. J. . . . .	8 P	Gower, D. B. . . . .	16 P
Burns, J. A. . . . .	361	Greenbaum, A. L. . . . .	405
Campbell, J. W. . . . .	495	Grimes, H. . . . .	15 P
Cawley, T. N. . . . .	9 P	Gustafsson, J.-Å. . . . .	583
Chain, E. B. . . . .	537	Hatton, M. . . . .	17 P
Chase, J. F. A. . . . .	517	Hindle, E. J. . . . .	19 P
Cifonelli, J. A. . . . .	11 P	Hirtenstein, M. D. . . . .	607
Clancy, M. J. . . . .	21 P	Hollenberg, M. D. . . . .	473
Clements, J. B. . . . .	6 P	Hope, D. B. . . . .	473
Cohen, B. B. . . . .	523	Hurwitz, E. . . . .	371
Colleran, E. . . . .	13 P	Illingworth, D. R. . . . .	16 P
Della Corte, E. . . . .	597	Illingworth, J. A. . . . .	511
Di Augustine, R. P. . . . .	547	Johnston, M. D. . . . .	6 P
Dodgson, K. S. . . . .	17 P	Jones, J. G. . . . .	11 P
Downey, W. K. . . . .	21 P, 22 P		
Duggan, P. F. . . . .	8 P		
Dunican, L. K. . . . .	7 P		