

The BIOCHEMICAL JOURNAL

September 1974

Volume 142, No. 3

EDITORIAL BOARD

Chairman

D. G. Walker

Deputy Chairmen

H. B. F. Dixon

K. M. Jones

J. E. Crømer

N. M. Green*

J. W. Bradbeer

R. B. Cain

M. Cannon

R. M. Denton

F. M. Dickinson

R. R. Dils

J. T. Dingle

D. C. Ellwood

P. B. Garland

J. J. Holbrook

M. R. Hollaway

R. C. Hughes

J. D. Judah

A. E. Kellie

U. E. Loening

J. A. Lucy

W. I. P. Mainwaring

R. D. Marshall

P. A. Mayes

J. C. Metcalfe

A. C. T. North*

R. E. Offord

D. V. Parke

A. E. Pegg

R. N. Perham

G. K. Radda

R. Rodnight

A. P. Ryle

D. R. Stanworth

I. O. Walker

D. C. Watts

F. R. Whatley

D. H. Williamson

Editorial Secretary

J. D. Killip

Assistant Editorial Secretary

E. N. Maltby

*Nominated by the British
Biophysical Society

Overseas Advisory Panel

F. J. Ballard (Australia), S. Bergström (Sweden), B. Chance (U.S.A.), J.-P. Changeux (France), P. W. Choppin (U.S.A.), W. H. Elliott (Australia), D. Garfinkel (U.S.A.), F. W. E. Gibson (Australia), A. A. Hadjiolov (Bulgaria), H. G. Hers (Belgium), W. D. Stein (Israel), H. G. Wittmann (Germany), I. G. Wool (U.S.A.)



London: The Biochemical Society

THE BIOCHEMICAL SOCIETY

OFFICERS AND COMMITTEE, 1974-75

Chairman of the Committee

T. S. Work

Treasurer

D. F. Elliott

General Secretary

H. M. Keir

Publications Secretary

R. M. C. Dawson

Meetings Secretary

J. B. Lloyd

Assistant Meetings Secretary

H. F. Bradford

Committee

B. A. Askonas, F.R.S.

H. S. Bachelard

K. Burton

C. A. Fewson

T. W. Goodwin, F.R.S.

K. Griffiths

M. G. Harrington

J. N. Hawthorne

C. H. S. Hitchcock

R. J. B. King

C. F. Mills

T. F. Slater

R. E. van Heyningen

D. G. Walker*

A. M. White

**Ex officio Member of Committee;
representative of Editorial Board
of the *Biochemical Journal*.*

Executive Secretary

A. I. P. Henton (7 Warwick Court, London WC1R 5DP)

The Biochemical Society exists to advance the science of biochemistry through meetings and publications. Several meetings a year are held, each at a different place; original papers are presented and special topics are discussed at symposia and colloquia.

Persons interested in biochemistry are eligible for election as Members. Details of further facilities accorded to Members, and forms of application for membership, are available from the Executive Secretary, The Biochemical Society, 7 Warwick Court, London WC1R 5DP [01-242 1076 (4 lines)].

The **Biochemical Journal** is published and distributed by the Biochemical Society. It is published twice monthly, alternate issues being devoted to **Molecular Aspects** and to **Cellular Aspects** of biochemistry. It is planned that in 1974 eight volumes, each volume being made up of three issues, will be published according to the following schedule:

| Molecular Aspects | | | Cellular Aspects | | |
|-------------------|------|------|------------------|------|------|
| 1974 | Vol. | Part | 1974 | Vol. | Part |
| 1 Jan. | 137 | 1 | 15 Jan. | 138 | 1 |
| 1 Feb. | 137 | 2 | 15 Feb. | 138 | 2 |
| 1 Mar. | 137 | 3 | 15 Mar. | 138 | 3 |
| 1 Apr. | 139 | 1 | 15 Apr. | 140 | 1 |
| 1 May | 139 | 2 | 15 May | 140 | 2 |
| 1 June | 139 | 3 | 15 June | 140 | 3 |
| 1 July | 141 | 1 | 15 July | 142 | 1 |
| 1 Aug. | 141 | 2 | 15 Aug. | 142 | 2 |
| 1 Sept. | 141 | 3 | 15 Sept. | 142 | 3 |
| 1 Oct. | 143 | 1 | 15 Oct. | 144 | 1 |
| 1 Nov. | 143 | 2 | 15 Nov. | 144 | 2 |
| 1 Dec. | 143 | 3 | 15 Dec. | 144 | 3 |

Biochemical Society Transactions. This is now a separate publication (see below). Volume 2 will be published in 1974 in six parts.

Subscription Rates to the Biochemical Journal. For non-members of the Biochemical Society the subscription in 1974 is £95.00. Subject to exchange variation the rate for U.S.A., Canada and Mexico is \$265.00 (despatch by air freight to these countries).

Subscribers to the *Biochemical Journal* can subscribe to *Biochemical Society Transactions* on a joint subscription, saving £10 (\$25.00). The joint subscription is £100.00 (\$280.00 to addressees in U.S.A., Canada and Mexico; both publications despatched by air freight).

Terms are cash with order or against proforma invoice. Orders and subscriptions should be sent to the Biochemical Society (Publications), P.O. Box 32, Commerce Way, Whitehall Road Industrial Estate, Colchester CO2 8HP, Essex, or through your normal agent.

Claims regarding issues lost or damaged in transit should be addressed to the Biochemical Society at the address given in the preceding paragraph. Claims cannot be entertained if they are received later than three months after the date of posting.

Back Numbers. Enquiries for volumes 1–19 of the Journal should be addressed to William Dawson & Sons Ltd., Back Issues Department, Cannon House, Park Farm Road, Folkestone, Kent. Quotations for available issues of subsequent volumes and parts of the Journal, and also of Transactions, may be obtained on application to The Biochemical Society (Publications), P.O. Box 32, Commerce Way, Whitehall Road Industrial Estate, Colchester CO2 8HP, Essex.

Microfilms. Volumes 1–89 (1906–1963) of the Journal have been recorded on microfilm. Details are available from the Biochemical Society's Colchester office.

Advertisements. Applications for advertising space should be sent to the Advertising Department, The Biochemical Society, 7 Warwick Court, London WC1R 5DP [01-242 1076 (4 lines)]. Copy is required eight weeks before publication date. Rate cards are available on request.

Index of Authors

| | PAGE | | PAGE | | PAGE |
|-----------------|----------|----------------------|------|---------------------|---------------|
| Acton, G. J. | 449 | Gillette, P. C. | 685 | Marsh, C. A. | 491 |
| Allan, D. | 591, 599 | Grant, M. E. | 641 | Matthews, E. K. | 637 |
| Bajpai, P. C. | 567 | Greco, M. | 695 | Mellenberger, R. W. | 659 |
| Bauman, D. E. | 659 | Haddock, B. A. | 703 | Mellows, G. | 673 |
| Bégin-Heick, N. | 465 | Hansford, R. G. | 509 | Michell, R. H. | 583, 591, 599 |
| Bone, A. H. | 499 | Harwood, R. | 641 | Montanaro, L. | 695 |
| Booth, A. G. | 575 | Hearse, D. J. | 673 | Mouat, B. | 629 |
| Bourassa, M. | 465 | Heath, D. F. | 527 | Norris, K. A. | 667 |
| Bowen, N. L. | 611 | Hedekov, C. J. | 653 | Novello, F. | 695 |
| Bruchovsky, N. | 483 | Heick, H. M. C. | 465 | Reed, K. C. | 555 |
| Buckley, J. T. | 521 | Hems, D. A. | 611 | Reid, E. | 667 |
| Bygrave, F. L. | 555 | Hinton, R. H. | 667 | Rodnight, R. | 605 |
| Cannon, M. | 457 | Hoppel, C. L. | 699 | Sabri, M. I. | 499 |
| Capito, K. | 653 | Huttner, W. B. | 691 | Saccone, C. | 695 |
| Claycomb, W. C. | 685 | Issa, F. S. | 667 | Saggerson, E. D. | 477 |
| Cox, R. A. | 699 | Jackson, D. S. | 641 | Salmon, D. M. W. | 611 |
| Cremer, J. E. | 527 | Jimenez, A. | 457 | Schopfer, P. | 449 |
| Davison, A. N. | 499 | Jones, L. M. | 583 | Seitz, H. J. | 691 |
| Dean, P. M. | 637 | Kapoor, C. L. | 567 | Sperti, S. | 695 |
| Dobrota, M. | 667 | Karunanayake, E. H. | 673 | Stirpe, F. | 695 |
| Downie, J. A. | 703 | Kenny, A. J. | 575 | Tarnowski, W. | 691 |
| Fenselau, A. | 619 | Krishna Murti, C. R. | 567 | Wallis, K. | 619 |
| Fishman, W. H. | 491 | Krone, W. | 691 | Weller, M. | 605 |
| Flanagan, P. R. | 545 | Lesser, B. | 483 | Zbarsky, S. H. | 545 |
| | | Lin, C.-W. | 491 | | |
| | | Long, C. | 629 | | |

NOTES FOR CONTRIBUTORS

It is the policy of the *Biochemical Journal* to publish papers in English in all fields of biochemistry, provided that they make a sufficient contribution to biochemical knowledge. Papers may include new results obtained experimentally, descriptions of new experimental methods of biochemical importance, or new interpretations of existing results. Theoretical contributions will be considered equally with papers dealing with experimental work. All work presented should have as its aim the development of biochemical concepts rather than the mere recording of facts. Preliminary or inconclusive experiments should not generally be described.

For detailed instructions on the preparation of papers contributors should refer to *Policy of the Journal and Instructions to Authors* [*Biochem. J.* (1973), 131, 1–20] and amendments [*Biochem. J.* (1974), 137, 1] (obtainable from the Executive Secretary, The Biochemical Society, 7 Warwick Court, London WC1R 5DP, price 20p. post free). The *Biochemical Journal* uses the recommended SI (Système Internationale) symbols [see *Pure Appl. Chem.* (1970), 21, 1–44; *Quantities, Units and Symbols* (1971), The Royal Society, London]. For biochemical nomenclature authors should as far as possible follow the Tentative Rules and Proposals of the IUPAC–IUB Commission on Biochemical Nomenclature [see *Biochem. J.* (1973), 131, 9]. For chemical nomenclature the IUPAC Rules should be followed [see *Biochem. J.* (1973), 131, 12]. The *Biochemical Journal* uses as a standard of spelling the *Concise Oxford Dictionary of Current English* (Clarendon Press, Oxford).

Two types of paper are accepted by the editors:

Full-length papers. Papers submitted for publication should be sent together with an extra copy of the synopsis (see below) to the Editorial Secretary, The Biochemical Journal, 7 Warwick Court, London WC1R 5DP. Typescripts should bear the name and address of the person to whom the proof of the paper is to be sent.

Papers submitted should be written concisely. Special attention is directed to the sections below concerning the preparation of the typescript. Typescripts that are not concise or do not conform to the conventions of the *Biochemical Journal* will be returned to the authors for revision. If a paper that has been returned to an author for revision is not resubmitted within one month, it will, on resubmission, be deemed to be a new paper and the date of receipt altered accordingly. A revised paper containing a significant amount of new material will also be redated.

Submission of a paper to the Editorial Board

implies that it reports unpublished work, that it is not under consideration for publication elsewhere, and that if accepted for the *Biochemical Journal* it will not be published elsewhere in the same form, either in English or in any other language, without the consent of the Editorial Board.

Papers should be headed by a concise but informative full title, by the names of the authors (preferably with one forename in full for each author) and by the name and address of the establishment where the work was performed. Details of financial support appear in the acknowledgements at the end of the paper.

Before preparing papers authors should consult a current issue of the Journal to make themselves familiar with the general format, such as the use of cross-headings, lay-out of tables and citation of references. Papers should be in double-spaced typing throughout (including the references and legends of tables and figures) on sheets of uniform size and wide margins. The top copy should be submitted. It cannot be overemphasized that the need for revision of badly prepared typescripts inevitably leads to delays in publication.

Papers on specialized subjects should be presented so that they are intelligible to the ordinary reader of the Journal. Sufficient information must be included to permit repetition of the experimental work.

Short Communications. Typescripts should be submitted *in duplicate*, written in English, and conform strictly to the form of the Journal as far as spelling and abbreviations are concerned. Each Short Communication should be provided with a short synopsis (normally not exceeding 50 words). Such communications should not exceed 2400 words in length inclusive of the title, references etc. Authors may include up to two insertions such as tables, figures or schemes; in these cases authors must assess what proportion of a page these insertions will occupy and reduce the number of text words accordingly at the rate of 700 words per full page of the Journal. Authors are advised that the preparation of tables and especially figures is liable to cause a slight increase in publication time. Under no circumstances whatsoever can a complete Short Communication occupy more than four pages of the Journal. Communications should be addressed to the Editorial Secretary, The Biochemical Journal, 7 Warwick Court, London WC1R 5DP. Papers should be complete in themselves; (1) the methods used in experimental work must be adequately described or sufficient references given to allow repetition of the work; (2) sufficient indication of the results of experimental work must be included to justify the claims made.

Index of Authors

- ACTON, G. J. & SCHOPFER, P. Phytochrome-induced synthesis of ribonuclease *de novo* in lupin hypocotyl sections 449-455
- ALBANO, J. D. M., BROWN, B. L., EKINS, R. P., TAIT, S. A. S. & TAIT, J. F. The effects of potassium, 5-hydroxytryptamine, adrenocorticotrophin and angiotensin II on the concentration of adenosine 3':5'-cyclic monophosphate in suspensions of dispersed rat adrenal zona glomerulosa and zona fasciculata cells 391-400
- ALBERTI, K. G. M. M. *see* BLACKSHEAR, P. J. 279-286
- ALEXIS, S. D., YOUNG, V. R. & GILL, D. M. Concentration of elongation factor 2 in rat skeletal muscle during protein depletion and re-feeding 185-188
- ALLAN, D. & MICHELL, R. H. Phosphatidylinositol cleavage catalysed by the soluble fraction from lymphocytes. Activity at pH 5.5 and pH 7.0 591-597
- ALLAN, D. & MICHELL, R. H. Phosphatidylinositol cleavage in lymphocytes. Requirement for calcium ions at a low concentration and effects of other cations 599-604
- ASHWORTH, J. M. *see* HAMES, B. D. 301-315, 317-325
- BADENOCH-JONES, P. & BAUM, H. Progesterone-induced lysis of rat kidney lysosomes as studied by changes in light-absorbance 1-6
- BAJPAI, P. C. *see* KAPOOR, C. L. 567-573
- BALLARD, F. J. *see* KNOWLES, S. E. 401-411
- BARKER, G. R., BRAY, C. M. & WALTER, T. J. The development of ribonuclease and acid phosphatase during germination of *Pisum arvense* 211-219
- BAUER, C. H., LUKASCHEK, R. & REUTTER, W. G. Studies on the Golgi apparatus. Cumulative inhibition of protein and glycoprotein secretion by D-galactosamine 221-230
- BAUM, H. *see* BADENOCH-JONES, P. 1-6
- BAUMAN, D. E. *see* MELLENBERGER, R. W. 659-665
- BEEDLE, A. S., MUNDAY, K. A. & WILTON, D. C. Studies on the biosynthesis of tetrahymanol in *Tetrahymana pyriformis*. The mechanism of inhibition by cholesterol 57-64
- BÉGIN-HEICK, N., BOURASSA, M. & HEICK, H. M. C. The effect of oxytetracycline on insulin resistance in obese mice 465-475
- BELL, P. A. *see* LAWSON, D. E. M. 37-46
- BLACKSHEAR, P. J., HOLLOWAY, P. A. H. & ALBERTI, K. G. M. M. The metabolic effects of sodium dichloroacetate in the starved rat 279-286
- BONE, A. H. *see* SABRI, M. I. 499-507
- BOOTH, A. G. & KENNY, A. J. A rapid method for the preparation of microvilli from rabbit kidney 575-581
- BOURASSA, M. *see* BÉGIN-HEICK, N. 465-475
- BOWEN, N. L. *see* SALMON, D. M. W. 611-618
- BOWEN, V. & LAZARUS, N. R. Insulin release from the perfused rat pancreas. Mode of action of tolbutamide 385-389
- BOWLES, D. J. & NORTHCOTE, D. H. The amounts and rates of export of polysaccharides found within the membrane system of maize root cells 139-144
- BRADFORD, N. M. *see* MCGIVAN, J. D. 359-364
- BRAND, L. M. & HARPER, A. E. Effect of glucagon on phenylalanine metabolism and phenylalanine-degrading enzymes in the rat 231-245
- BRAY, C. M. *see* BARKER, G. R. 211-219
- BREW, K. *see* POWELL, J. T. 203-209
- BROWN, B. L. *see* ALBANO, J. D. M. 391-400
- BRUCHOVSKY, N. *see* LESSER, B. 429-431, 483-489
- BUCKLEY, J. T. Calcium ion transport by pig erythrocyte membrane vesicles 521-526
- BYGRAVE, F. L. *see* REED, K. C. 555-566
- CANNON, M. & JIMENEZ, A. Lomofungin as an inhibitor of nucleic acid synthesis in *Saccharomyces cerevisiae* 457-463
- CAPANO, M. *see* CROMPTON, M. 127-137
- CAPITO, K. & HEDESKOV, C. J. The effect of starvation on phosphodiesterase activity and the content of adenosine 3':5' cyclic monophosphate in isolated mouse pancreatic islets 653-658
- CARIGLIA, N. *see* PATEL, R. P. 441-443
- CARR, N. G. *see* TOVEY, K. C. 47-56
- CHAPPELL, J. B. *see* DANKS, S. M. 353-358; MCGIVAN, J. D. 359-364
- CHENOWETH, M. *see* KATZ, J. 171-183
- CLAYCOMB, W. C. *see* GILLETTE, P. C. 685-690
- COONEY, D. A. *see* MILMAN, H. A. 27-35
- COORE, H. G. & FIELD, B. Properties of pyruvate dehydrogenase of rat mammary tissue and its changes during pregnancy, lactation and weaning 87-95
- CORNELL, N. W., LUND, P. & KREBS, H. A. The effect of lysine on gluconeogenesis from lactate in rat hepatocytes 327-337
- COX, R. A. & HOPPEL, C. L. Carnitine and trimethylaminobutyrate synthesis in rat tissues 699-701
- CREMER, J. E. & HEATH, D. F. The estimation of rates of utilization of glucose and ketone bodies in the brain of the suckling rat using compartmental analysis of isotopic data 527-544
- CROMPTON, M., PALMIERI, F., CAPANO, M. & QUAGLIARIELLO, E. The transport of sulphate and sulphite in rat liver mitochondria 127-137
- DANKS, S. M. & CHAPPELL, J. B. Changes in intramitochondrial adenine nucleotides in blowfly flight-muscle mitochondria 353-358
- DAVISON, A. N. *see* SABRI, M. I. 499-507
- DAVISON, S. C. & WILLS, E. D. Phospholipid synthesis in rat liver endoplasmic reticulum after the administration of phenobarbitone and 20-methylcholanthrene 19-26
- DEAN, P. M. & MATTHEWS, E. K. Calcium-ion binding to the chromaffin-granule surface 637-640
- DEGN, H. *see* PETERSEN, L. C. 247-252
- DENTON, R. M. *see* HALESTRAP, A. P. 365-377
- DOBROTA, M. *see* NORRIS, K. A. 667-671
- DOWNIE, J. A. *see* HADDOCK, B. A. 703-706
- DUNN, A. *see* KATZ, J. 161-170, 171-183

- EDELSTEIN, L. M. *see* PATEL, R. P. 441-443
 EKINS, R. P. *see* ALBANO, J. D. M. 391-400
- FENSELAU, A. & WALLIS, K. Comparative studies on 3-oxo acid coenzyme A-transferase from various rat tissues 619-627
- FERN, E. B. & GARLICK, P. J. The specific radioactivity of the tissue free amino acid pool as a basis for measuring the rate of protein synthesis in the rat *in vivo* 413-419
- FIELD, B. *see* COORE, H. G. 87-95
- FILSELL, O. H. *see* KNOWLES, S. E. 401-411
- FISHMAN, W. H. *see* MARSH, C. A. 491-497
- FLANAGAN, P. R. & ZBARSKY, S. H. Phosphodiesterase II in epithelial cells from guinea-pig and rat small intestine 545-553
- GAMBLE, W. *see* OLSON, R. J. 445-448
- GARLICK, P. J. *see* FERN, E. B. 413-419
- GAWTHORNE, J. M. & SMITH, R. M. Folic acid metabolism in vitamin B₁₂-deficient sheep. Effects of injected methionine on methotrexate transport and the activity of enzymes associated with folate metabolism in liver 119-126
- GAWTHORNE, J. M. *see also* SMITH, R. M. 105-117
- GILL, D. M. *see* ALEXIS, S. D. 185-188
- GILLETTE, P. C. & CLAYCOMB, W. C. Thymidine kinase activity in cardiac muscle during embryonic and post-natal development 685-690
- GOAD, L. J. *see* SMITH, A. G. 421-427
- GOLDEN, S. *see* KATZ, J. 171-183
- GRANT, M. E. *see* HARWOOD, R. 641-651
- GRECO, M., MONTANARO, L., NOVELLO, F., SACCONI, C., SPERTI, S. & STIRPE, F. Inhibition of protein synthesis by ricin: experiments with rat liver mitochondria and nuclei and with ribosomes from *Escherichia coli* 695-697
- GREGORY, R. P. F. & RAPS, S. The differential scattering of circularly polarized light by chloroplasts and evaluation of their true circular dichroism 193-201
- GUSTAFSSON, J.-A. & POUSETTE, A. Different mechanisms of regulation of nuclear reduced nicotinamide-adenine dinucleotide phosphate-dependent 3-oxo steroid 5 α -reductase activity in rat liver, kidney and prostate 273-277
- HADDOCK, B. A. & Downie, J. A. The reconstitution of functional respiratory chains in membranes from electron-transport-deficient mutants of *Escherichia coli* as demonstrated by quenching of atebtrin fluorescence 703-706
- HADJILOV, A. A. & MILCHEV, G. I. Synthesis and maturation of ribosomal ribonucleic acids in isolated HeLa cell nuclei. A tracer study on the topology of the 45S precursor of ribosomal ribonucleic acids 263-272
- HALES, C. N. *see* SIDDLE, K. 97-103, 345-351
- HALESTRAP, A. P. & DENTON, R. M. Hormonal regulation of adipose-tissue acetyl-coenzyme A carboxylase by changes in the polymeric state of the enzyme. The role of long-chain fatty acyl-coenzyme A thioesters and citrate 365-377
- HAMES, B. D. & ASHWORTH, J. M. The control of saccharide synthesis during development of myxamoebae of *Dictyostelium discoideum* containing differing amounts of glycogen 317-325
- HAMES, B. D. & ASHWORTH, J. M. The metabolism of macromolecules during the differentiation of myxamoebae of the cellular slime mould *Dictyostelium discoideum* containing different amounts of glycogen 301-315
- HANSFORD, R. G. The control of tricarboxylate-cycle oxidations in blowfly flight muscle. The steady-state concentrations of coenzyme A, acetyl-coenzyme A and succinyl-coenzyme A in flight muscle and isolated mitochondria 509-519
- HARPER, A. E. *see* BRAND, L. M. 231-245
- HARWOOD, R., GRANT, M. E. & JACKSON, D. S. Influence of ascorbic acid in ribosomal patterns and collagen biosynthesis in healing wounds of scorbutic guinea pigs 641-651
- HEARSE, D. J. *see* KARUNANAYAKE, E. H. 673-683
- HEATH, D. F. *see* CREMER, J. E. 527-544
- HEDESKOV, C. J. *see* CAPITO, K. 653-658
- HEICK, H. M. C. *see* BÉGIN-HEICK, N. 465-475
- HEMS, D. A. *see* SALMON, D. M. W. 611-618
- HERNÁNDEZ, A. G. Protein synthesis by synaptosomes from rat brain. Contribution by the intraterminal mitochondria 7-17
- HINTON, R. H. *see* NORRIS, K. A. 667-671
- HOLLOWAY, P. A. H. *see* BLACKSHEAR, P. J. 279-286
- HOPPEL, C. L. *see* COX, R. A. 699-701
- HOWELL, S. L. & MONTAGUE, W. Regulation of guanylate cyclase in guinea-pig islets of Langerhans 379-384
- HUTTNER, W. B., KRONE, W., SEITZ, H. J. & TARNOWSKI, W. Stimulation by 6-N,2'-O-dibutyryl adenosine 3':5'-cyclic monophosphate and glucocorticoids of phosphoenolpyruvate carboxykinase in the isolated perfused rat liver 691-693
- ISSA, F. S. *see* NORRIS, K. A. 667-671
- JACKSON, D. S. *see* HARWOOD, R. 641-651
- JARRETT, I. G. *see* KNOWLES, S. E. 401-411
- JIMENEZ, A. *see* CANNON, M. 457-463
- JONES, L. M. & MICHELL, R. H. Breakdown of phosphatidylinositol provoked by muscarinic cholinergic stimulation of rat parotid-gland fragments 583-590
- KACEW, S. & SINGHAL, R. L. Role of cyclic adenosine 3':5'-monophosphate in the action of 1,1,1-trichloro-2,2-bis-(*p*-chlorophenyl)ethane (DDT) on hepatic and renal metabolism 145-152
- KAPOOR, C. L., KRISHNA MURTI, C. R. & BAJPAI, P. C. Role of human skin in the photodecomposition of bilirubin 567-573
- KARUNANAYAKE, E. H., HEARSE, D. J. & MELLOWS, G. The synthesis of [¹⁴C]streptozotocin and its distribution and excretion in the rat 673-683
- KATZ, J., DUNN, A., CHENOWETH, M. & GOLDEN, S. Determination of synthesis, recycling and body mass of glucose in rats and rabbits *in vivo* with ³H- and ¹⁴C-labelled glucose 171-183
- KATZ, J., ROSTAMI, H. & DUNN, A. Evaluation of glucose turnover, body mass and recycling with reversible and irreversible tracers 161-170
- KEMP, J. & LOUGHMAN, B. C. Cyclitol glucosides and their role in the synthesis of a glucan from uridine diphosphate glucose in *Phaseolus aureus* 153-159
- KENNY, A. J. *see* BOOTH, A. G. 575-581

- KNOWLES, S. E., JARRETT, I. G., FILSELL, O. H. & BALLARD, F. J. Production and utilization of acetate in mammals 401-411
- KREBS, H. A. *see* CORNELL, N. W. 327-337
- KRISHNA MURTI, C. R. *see* KAPOOR, C. L. 567-573
- KRONE, W. *see* HUTTNER, W. B. 691-693
- KURTZ, M. J., POLGAR, P., TAYLOR, L. & RUTENBURG, A. M. The role of adenosine 3':5'-cyclic monophosphate in the division of WI 38 cells. The cellular response to prostaglandin E₁ and the effects of an adenosine 3':5'-cyclic monophosphate analogue and prostaglandin E₁ on cell division 339-344
- LABOW, R. S. & LAYNE, D. S. A comparison of glucoside formation by liver preparations from the rabbit and the mouse 75-78
- LAWSON, D. E. M. & BELL, P. A. Metabolism of dihydro-tachysterol and 5,6-trans-cholecalciferol in the chick and the rat 37-46
- LAYNE, D. S. *see* LABOW, R. S. 75-78
- LAZARUS, N. R. *see* BOWEN, V. 385-389
- LESSER, B. & BRUCHOVSKY, N. Effect of duration of the period after castration on the response of the rat ventral prostate to androgens 429-431
- LESSER, B. & BRUCHOVSKY, N. The effects of 5 α -dihydro-testosterone on the kinetics of cell proliferation in rat prostate 483-489
- LIN, C.-W. *see* MARSH, C. A. 491-497
- LONG, C. *see* MOUAT, B. 629-636
- LOUGHMAN, B. C. *see* KEMP, J. 153-159
- LOWRY, P. J. & McMARTIN, C. Measurement of the dynamics of stimulation and inhibition of steroidogenesis in isolated rat adrenal cells by using column perfusion 287-294
- LUCAS, N. *see* TOVEY, K. C. 47-56
- LUKASCHEK, R. *see* BAUER, C. H. 221-230
- LUND, P. *see* CORNELL, N. W. 327-337
- MARSH, C. A., LIN, C.-W. & FISHMAN, W. H. Golgi β -glucuronidase of androgen-stimulated mouse kidney 491-497
- MATTHEWS, E. K. *see* DEAN, P. M. 637-640
- MCGIVAN, J. D., BRADFORD, N. M. & CHAPPELL, J. B. Adaptive changes in the capacity of systems used for the synthesis of citrulline in rat liver mitochondria in response to high- and low-protein diets 359-364
- McMARTIN, C. *see* LOWRY, P. J. 287-294
- McPHERSON, M. *see* SCHOFIELD, J. G. 295-300
- MELLENBERGER, R. W. & BAUMAN, D. E. Metabolic adaptations during lactogenesis. Lactose synthesis in rabbit mammary tissue during pregnancy and lactation 659-665
- MELLOWS, G. *see* KARUNAYAKE, E. H. 673-683
- MICHELL, R. H. *see* ALLAN, D. 591-597, 599-604; JONES, L. M. 583-590
- MILCHEV, G. I. *see* HADJILOV, A. A. 263-272
- MILMAN, H. A. & COONEY, D. A. The distribution of L-asparagine synthetase in the principal organs of several mammalian and avian species 27-35
- MITCHELL, P. D. *see* SMITH, I. 189-191
- MONTAGUE, W. *see* HOWELL, S. L. 379-384
- MONTANARO, L. *see* GRECO, M. 695-697
- MOUAT, B. & LONG, C. The influx of calcium ions into human erythrocytes during cold storage. The influences of extracellular pH, intracellular adenosine triphosphate and efflux of univalent cations 629-636
- MUNDAY, K. A. *see* BEEDLE, A. S. 57-64
- NICHOLLS, P. *see* PETERSEN, L. C. 247-252
- NORRIS, K. A., DOBROTHA, M., ISSA, F. S., HINTON, R. H. & REID, E. Heterogeneous distribution of enzymes among plasma-membrane fragments sedimenting with the microsomal fraction of rat liver 667-671
- NORTHCOTE, D. H. *see* BOWLES, D. J. 139-144
- NOVELLO, F. *see* GRECO, M. 695-697
- OKUN, M. R. *see* PATEL, R. P. 441-443
- OLDHAM, K. G. *see* TOVEY, K. C. 47-56
- OLSON, R. J., TRUMBLE, T. E. & GAMBLE, W. Alterations in cholesterol and fatty acid biosynthesis in rat liver homogenates by aryloxy acids 445-448
- OSBORNE-WHITE, W. S. *see* SMITH, R. M. 105-117
- PALMIERI, F. *see* CROMPTON, M. 127-137
- PANINI, S. R. & RAMAKRISHNA KURUP, C. K. Mode of inhibition of mitochondrial energy transduction by chlorophenoxyisobutyrate 253-261
- PATEL, R. P., OKUN, M. R., EDELSTEIN, L. M. & CARIGLIA, N. Peroxidatic oxidation of tyrosine to melanin in supernatant of crude mouse melanoma homogenates 441-443
- PETERSEN, L. C., NICHOLLS, P. & DEGN, H. The effect of energization on the apparent Michaelis-Menten constant for oxygen in mitochondrial respiration 247-252
- POLGAR, P. *see* KURTZ, M. J. 339-344
- POUSETTE, A. *see* GUSTAFSSON, J.-A. 273-277
- POWELL, J. T. & BREW, K. Glycosyltransferases in the Golgi membranes of onion stem 203-209
- QUAGLIARIELLO, E. *see* CROMPTON, M. 127-137
- RAMAKRISHNA KURUP, C. K. *see* PANINI, S. R. 253-261
- RAPS, S. *see* GREGORY, R. P. F. 193-201
- REED, K. C. & BYGRAVE, F. L. A re-evaluation of energy-independent calcium-ion binding by rat liver mitochondria 555-566
- REID, E. *see* NORRIS, K. A. 667-671
- REUTTER, W. G. *see* BAUER, C. H. 221-230
- RODNIGHT, R. *see* WELLER, M. 605-609
- ROSTAMI, H. *see* KATZ, J. 161-170
- RUTENBERG, A. M. *see* KURTZ, M. J. 339-344
- SABRI, M. I., BONE, A. H. & DAVISON, A. N. Turnover of myelin and other structural proteins in the developing rat brain 499-507
- SACCONE, C. *see* GRECO, M. 695-697
- SAGGERSON, E. D. Lipogenesis in rabbit isolated fat-cells 477-482
- SALMON, D. M. W., BOWEN, N. L. & HEMS, D. A. Synthesis of fatty acids in perfused mouse liver 611-618
- SCHOFIELD, J. G. & MCPHERSON, M. Increase in pituitary adenosine 3':5'-cyclic monophosphate content and potentiation of growth-hormone release from heifer anterior pituitary slices incubated in the presence of 3-isobutyl-1-methylxanthine 295-300

- SCHOPFER, P. *see* ACTON, G. J. 449-455
- SCOPES, R. K. Studies with a reconstituted muscle glycolytic system. The rate and extent of glycolysis in simulated post-mortem conditions 79-86
- SEITZ, W. *see* HUTTNER, W. B. 691-693
- SELWYN, M. J. *see* WATLING-PAYNE, A. S. 65-74
- SIDDLE, K. & HALES, C. N. The action of local anaesthetics on lipolysis and on adenosine 3':5'-cyclic monophosphate content in isolated rat fat-cells 345-351
- SIDDLE, K. & HALES, C. N. The relationship between the concentration of adenosine 3':5'-cyclic monophosphate and the anti-lipolytic action of insulin in isolated rat fat-cells 97-103
- SINGHAL, R. L. *see* KACEW, S. 145-152
- SMITH, A. G. & GOAD, L. J. Sterol biosynthesis by the sea urchin *Echinus esculentus* 421-427
- SMITH, I. & MITCHELL, P. D. The effect of oral inorganic sulphate on the metabolism of 4-hydroxyphenethylamine (tyramine) in Man: tyramine *O*-sulphate measurement in human urine 189-191
- SMITH, R. M., OSBORNE-WHITE, W. S. & GAWTHORNE, J. M. Folic acid metabolism in vitamin B₁₂-deficient sheep. Effects of injected methionine on liver constituents associated with folate metabolism 105-117
- SMITH, R. M. *see also* GAWTHORNE, J. M. 119-126
- SNELL, K. Pathways of gluconeogenesis from L-serine in the neonatal rat 433-436
- SPERTI, S. *see* GRECO, M. 695-697
- SPILLER, G. H. *see* TOVEY, K. C. 47-56
- STIRPE, F. *see* GRECO, M. 695-697
- TAIT, J. F. *see* ALBANO, J. D. M. 391-400
- TAIT, S. A. S. *see* ALBANO, J. D. M. 391-400
- TARNOWSKI, W. *see* HUTTNER, W. B. 691-693
- TAYLOR, L. *see* KURTZ, M. J. 339-344
- THOMAS, G. & THRELFALL, D. R. Synthesis of polyprenyltoluquinols from homogentisate and polyprenyl pyrophosphates in particulate fractions of *Euglena* and sugar beet 437-440
- THRELFALL, D. R. *see* THOMAS, G. 437-440
- TOVEY, K. C., SPILLER, G. H., OLDDHAM, K. G., LUCAS, N. & CARR, N. G. A new method for the preparation of uniformly ¹⁴C-labelled compounds by using *Anacystis nidulans* 47-56
- TRUMBLE, T. E. *see* OLSON, R. J. 445-448
- WALLIS, K. *see* FENSELAU, A. 619-627
- WALTER, T. J. *see* BARKER, G. R. 211-219
- WATLING-PAYNE, A. S. & SELWYN, M. J. Inhibition and uncoupling of photophosphorylation in isolated chloroplasts by organotin, organomercury and diphenyl-eneiodonium compounds 65-74
- WELLER, M. & RODNIGHT, R. Protein kinase activity stimulated by adenosine 3':5'-cyclic monophosphate in synaptic-membrane fragments from ox brain. Inhibition of intrinsic activity by free and membrane-bound calcium ions 605-609
- WILLS, E. D. *see* DAVISON, S. C. 19-26
- WILTON, D. C. *see* BEEDLE, A. S. 57-64
- YOUNG, V. R. *see* ALEXIS, S. D. 185-188
- ZBARSKY, S. H. *see* FLANAGAN, P. R. 545-553

Index of Subjects

- Acetate, lipogenesis from, and other substrates in isolated rabbit perirenal-adipose-tissue fat-cells (Saggerson, E. D.) 477-482
- Acetate, mechanism of the inhibition by cholesterol of the biosynthesis of tetrahymanol from, in *Tetrahymena pyriformis* (Beedle, A. S., Munday, K. A. & Wilton, D. C.) 57-64
- Acetate, production and utilization of, in the rat and the sheep (Knowles, S. E., Jarrett, I. G., Filsell, O. H. & Ballard, F. J.) 401-411
- Acetylcholine, stimulation by, of the breakdown of phosphatidylinositol in fragments of rat parotid salivary gland (Jones, L. M. & Michell, R. H.) 583-590
- Acetyl-coenzyme A carboxylase, role of long-chain fatty acyl-coenzyme A thioesters and citrate in the hormonal regulation of the activity of, in rat epididymal adipose tissue (Halestrap, A. P. & Denton, R. M.) 365-377
- Acetyl-coenzyme A hydrolase, activities of acetyl-coenzyme A synthetase and, in various tissues of the rat and the sheep (Knowles, S. E., Jarrett, I. G., Filsell, O. H. & Ballard, F. J.) 401-411
- Acetyl-coenzyme A, steady-state concentrations of coenzyme A, 3-carboxypropionyl-coenzyme A and, in blowfly flight muscle and isolated mitochondria and the control of tricarboxylic acid-cycle oxidations (Hansford, R. G.) 509-519
- Acetyl-coenzyme A, synthetase, activities of acetyl-coenzyme hydrolase and, in various tissues of the rat and the sheep (Knowles, S. E., Jarrett, I. G., Filsell, O. H. & Ballard, F. J.) 401-411
- Acetyl-coenzyme A, use of compartmental analysis of isotopic data for estimation of the rates of formation of, from glucose and ketone bodies in developing rat brain (Cremer, J. E. & Heath, D. F.) 527-544
- Acid phosphatase, *see* Phosphatase, acid
- Adenine nucleotides, changes in the concentrations of, in blowfly flight-muscle mitochondria (Danks, S. M. & Chappell, J. B.) 353-358
- Adenosine 3':5'-cyclic monophosphate, 6-*N*,2'-*O*-di-butyl, stimulation by, and glucocorticoids of the activity of phosphoenolpyruvate carboxykinase in isolated perfused rat liver (Huttner, W. B., Krone, W., Seitz, H. J. & Tarnowski, W.) 691-693
- Adenosine 3':5'-cyclic monophosphate, effect of starvation on the activity of phosphodiesterases and the concentration of, in isolated mouse pancreatic islets of Langerhans (Capito, K. & Hedeskov, C. J.) 653-658
- Adenosine 3':5'-cyclic monophosphate, effects of local anaesthetics on hormone-stimulated lipolysis and on the concentration of, in isolated rat epididymal fat-cells (Siddle, K. & Hales, C. N.) 345-351
- Adenosine 3':5'-cyclic monophosphate, effects of potassium ions, 5-hydroxytryptamine, adrenocorticotrophin and angiotensin II on the concentration of, in suspensions of dispersed rat adrenal-gland zona glomerulosa and zona fasciculata cells (Albano, J. D. M., Brown, B. L., Ekins, R. P., Tait, S. A. S. & Tait, J. F.) 391-400
- Adenosine 3':5'-cyclic monophosphate, increase in the concentration of, in and potentiation of the release of growth hormone by heifer anterior-pituitary-gland slices incubated in the presence of 3-isobutyl-1-methyl-xanthine (Schofield, J. G. & McPherson, M.) 295-300
- Adenosine 3':5'-cyclic monophosphate, measurement of the effects of, on the dynamics of steroidogenesis in isolated rat adrenal-gland cells by using column perfusion (Lowry, P. J. & McMMartin, C.) 287-294
- Adenosine 3':5'-cyclic monophosphate, 8-methylthio-, effects of prostaglandin E₁ and, on the growth and division of human WI 38 fibroblast cells (Kurtz, M. J., Polgar, P., Taylor, L. & Rutenburg, A. M.) 339-344
- Adenosine 3':5'-cyclic monophosphate, relationship between the concentration of, and the anti-lipolytic action of insulin in isolated rat epididymal fat-cells (Siddle, K. & Hales, C. N.) 97-103
- Adenosine 3':5'-cyclic monophosphate, role of, in the action of 1,1,1-trichloro-2,2-bis-(*p*-chlorophenyl)ethane (DDT) on carbohydrate metabolism in rat liver and kidney (Kacew, S. & Singhal, R. L.) 145-152
- Adenosine monophosphate, possible role of, in the control of the oxidative activity of blowfly flight-muscle mitochondria (Danks, S. M. & Chappell, J. B.) 353-358
- Adenosine triphosphate, effects of, on the transport of calcium ions by and the concentrations of polyphosphoinositides in pig erythrocyte membrane vesicles (Buckley, J. T.) 521-526
- Adenosine triphosphate, intracellular, influences of extracellular pH, efflux of univalent cations and, on the influx of calcium ions into human erythrocytes during cold storage (Mouat, B. & Long, C.) 629-636
- Adenylate cyclase, involvement of, in the stimulation by tolbutamide of the release of insulin by rat pancreas islets of Langerhans (Bowen, V. & Lazarus, N. R.) 385-389
- Adipocytes, epididymal, rat, isolated, effects of local anaesthetics on hormone-stimulated lipolysis and on the concentration of adenosine 3':5'-cyclic monophosphate in (Siddle, K. & Hales, C. N.) 345-351
- Adipocytes, epididymal, rat, isolated, relationship between the concentration of adenosine 3':5'-cyclic monophosphate and the anti-lipolytic action of insulin in (Siddle, K. & Hales, C. N.) 97-103
- Adipocytes, perirenal-adipose-tissue, rabbit, isolated, lipogenesis in (Saggerson, E. D.) 477-482
- Adipose tissue, epididymal, rat, role of long-chain fatty acyl-coenzyme A thioesters and citrate in the hormonal regulation of the activity of acetyl-coenzyme A carboxylase in (Halestrap, A. P. & Denton, R. M.) 365-377
- Adipose tissue, perirenal, rabbit, lipogenesis in fat-cells isolated from (Saggerson, E. D.) 477-482
- Adrenal-gland cells, rat, isolated, measurement of the dynamics of stimulation and inhibition of steroidogenesis in, by using column perfusion (Lowry, P. J. & McMMartin, C.) 287-294
- Adrenal-gland medulla, ox, binding of calcium ions to the surface of chromaffin granules from (Dean, P. M. & Matthews, E. K.) 637-640
- Adrenal gland, rat, effects of potassium ions, 5-hydroxytryptamine, adrenocorticotrophin and angiotensin II on the concentration of adenosine 3':5'-cyclic mono-

- phosphate in suspensions of dispersed zona glomerulosa and zona fasciculata cells of (Albano, J. D. M., Brown, B. L., Ekins, R. P., Tait, S. A. S. & Tait, J. F.) 391-400
- Adrenaline, role of long-chain fatty acyl-coenzyme A thioesters and citrate in the regulation by insulin and, of the activity of acetyl-coenzyme A carboxylase in rat epididymal adipose tissue (Halestrap, A. P. & Denton, R. M.) 365-377
- Adrenocorticotrophin, effects of, and other agents stimulating steroidogenesis on the concentration of adenosine 3':5'-cyclic monophosphate in suspensions of dispersed rat-adrenal-gland zona glomerulosa and zona fasciculata cells (Albano, J. D. M., Brown, B. L., Ekins, R. P., Tait, S. A. S. & Tait, J. F.) 391-400
- Adrenocorticotrophin, measurement of the effects of, on the dynamics of steroidogenesis in isolated rat adrenal-gland cells by using column perfusion (Lowry, P. J. & McMartin, C.) 287-294
- Allium cepa*, see Onion
- Amino acids, uniformly ¹⁴C-labelled, use of *Anacystis nidulans* for the preparation of (Tovey, K. C., Spiller, G. H., Oldham, K. G., Lucas, N. & Carr, N. G.) 47-56
- Anacystis nidulans*, use of, for the preparation of uniformly ¹⁴C-labelled nucleotides and amino acids (Tovey, K. C., Spiller, G. H., Oldham, K. G., Lucas, N. & Carr, N. G.) 47-56
- Anaesthetics, local, effects of, on hormone-stimulated lipolysis and on the concentration of adenosine 3':5'-cyclic monophosphate in isolated rat epididymal fat-cells (Siddle, K. & Hales, C. N.) 345-351
- Androgens, effect of duration of the period after castration on the response of the rat ventral prostate gland to (Lesser, B. & Bruchovsky, N.) 429-431
- Androgens, effects of, on the kinetics of cell proliferation in regenerating rat prostate gland (Lesser, B. & Bruchovsky, N.) 483-489
- Androgens, increase in the activity of β -glucuronidase in mouse kidney Golgi apparatus stimulated by, induced by the administration of gonadotrophin (Marsh, C. A., Lin, C.-W. & Fishman, W. H.) 491-497
- Androst-4-ene-3,17-dione, differences in the mechanisms for the regulation of the activity of nuclear nicotinamide-adenine dinucleotide phosphate-dependent 3-oxo 5 α -steroid reductase towards, in rat, liver, kidney and prostate gland (Gustafsson, J.-A. & Pousette, A.) 273-277
- Angiotensin II, effects of, and other agents stimulating steroidogenesis on the concentration of adenosine 3':5'-cyclic monophosphate in suspensions of dispersed rat adrenal-gland zona glomerulosa and zona fasciculata cells (Albano, J. D. M., Brown, B. L., Ekins, R. P., Tait, S. A. S. & Tait, J. F.) 391-400
- Ascorbate, influence of the administration of, on ribosomal patterns and the biosynthesis of collagen in healing wounds of scorbutic guinea pigs (Harwood, R., Grant, M. E. & Jackson, D. S.) 641-651
- L-Asparaginase, distribution of L-asparagine synthetase and, in the principal organs of various mammalian and avian species (Milman, H. A. & Cooney, D. A.) 27-35
- L-Asparagine synthetase, distribution of L-asparaginase and, in the principal organs of various mammalian and avian species (Milman, H. A. & Cooney, D. A.) 27-35
- Aspartate, use of compartmental analysis of isotopic data for estimation of the rates of formation of glutamate, glutamine and, from glucose and ketone bodies in developing rat brain (Cremer, J. E. & Heath, D. F.) 527-544
- Atebrin, reconstitution of functional respiratory chains in membranes from electron-transport-deficient mutants of *Escherichia coli* as demonstrated by quenching of the fluorescence of (Haddock, B. A. & Downie, J. A.) 703-706
- Bean, mung (*Phaseolus aureus*), role of cyclitol glucosides in the biosynthesis of a glucan from uridine diphosphate glucose in seedlings of (Kemp, J. & Loughman, B. C.) 153-159
- Beet (*Beta vulgaris*) leaves, biosynthesis of polyprenyl-toluquinols from homogenisate and polyprenyl pyrophosphates by chloroplast-rich particulate fractions from *Euglena gracilis* and (Thomas, G. & Threlfall, D. R.) 437-440
- Beta vulgaris*, see Beet
- Bilirubin, role of human skin in the photodecomposition of (Kapoor, C. L., Krishna Murti, C. R. & Bajpai, P. C.) 567-573
- Blood, rat, effects of the infusion of sodium dichloroacetate on the concentrations of metabolites in, in the starved animal (Blackshear, P. J., Holloway, P. A. H. & Alberti, K. G. M. M.) 279-286
- Blowfly (*Calliphora* sp.), changes in the concentrations of adenine nucleotides in flight-muscle mitochondria from (Danks, S. M. & Chappell, J. B.) 353-358
- Blowfly (*Phormia regina*), steady-state concentrations of coenzyme A, acetyl-coenzyme A and 3-carboxypropionyl-coenzyme A in flight muscle and isolated mitochondria from, and the control of tricarboxylic acid-cycle oxidations (Hansford, R. G.) 509-519
- Brain cortex, ox, inhibition by free and membrane-bound calcium ions of the intrinsic activity of adenosine 3':5'-cyclic monophosphate-stimulated protein kinase in fragments of synaptic membrane from (Weller, M. & Rodnight, R.) 605-609
- Brain cortex, rat, contribution by the intraterminal mitochondria to the biosynthesis of protein by synaptosomes from (Hernández, A. G.) 7-17
- Brain, rat and sheep, production and utilization of acetate in, and other tissues (Knowles, S. E., Jarrett, I. G., Filsell, O. H. & Ballard, F. J.) 401-411
- Brain, rat, comparison of the activities of 3-oxo acid coenzyme A-transferase in, and other tissues (Fenselau, A. & Wallis, K.) 619-627
- Brain, rat, developing, turnover of myelin proteins and other structural proteins in (Sabri, M. I., Bone, A. H. & Davison, A. N.) 499-507
- Brain, rat, developing, use of compartmental analysis of isotopic data for estimation of the rates of utilization of glucose and ketone bodies in (Cremer, J. E. & Heath, D. F.) 527-544
- Brain, rat, specific radioactivities of free glycine and free serine after the infusion of [U-¹⁴C]glycine as a basis for measuring the rate of biosynthesis of protein in, and other tissues *in vivo* (Fern, E. B. & Garlick, P. J.) 413-419
- Brush border, kidney-cortex, rabbit, rapid method for the preparation of microvilli from (Booth, A. G. & Kenny, A. J.) 575-581

- Calcium ions, binding of, to the surface of ox adrenal-gland-medulla chromaffin granules (Dean, P. M. & Matthews, E. K.) 637-640
- Calcium ions, free and membrane-bound, inhibition by, of the intrinsic activity of adenosine 3':5'-cyclic monophosphate-stimulated protein kinase in fragments of ox cerebral-cortex synaptic membrane (Weller, M. & Rodnight, R.) 605-609
- Calcium ions, influences of extracellular pH, intracellular adenosine triphosphate and efflux of univalent cations on the influx of, into human erythrocytes during cold storage (Mouat, B. & Long, C.) 629-636
- Calcium ions, possible role of, in the inhibition by local anaesthetics of hormone-stimulated lipolysis in isolated rat epididymal fat-cells (Siddle, K. & Hales, C. N.) 345-351
- Calcium ions, re-evaluation of the energy-independent binding of, by rat liver mitochondria (Reed, K. C. & Bygrave, F. L.) 555-566
- Calcium ions, requirement for, at a low concentration in the breakdown of phosphatidylinositol catalysed by pig lymphocyte cytosol fraction (Allan, D. & Michell, R. H.) 599-604
- Calcium ions, transport of, by pig erythrocyte membrane vesicles (Buckley, J. T.) 521-526
- Calliphora* sp., see Blowfly
- Carbohydrate, role of adenosine 3':5'-cyclic monophosphate in the action of 1,1,1-trichloro-2,2-bis-(*p*-chlorophenyl)ethane (DDT) on the metabolism of, in rat liver and kidney (Kacew, S. & Singhal, R. L.) 145-152
- Carbohydrates, control of the biosynthesis of, during differentiation of myxamoebae of *Dictyostelium discoideum* A.T.C.C. 24397 containing different amounts of glycogen (Hames, B. D. & Ashworth, J. M.) 317-325
- [¹⁴C]Carbon dioxide, use of *Anacystis nidulans* grown in the presence of, for the preparation of uniformly ¹⁴C-labelled compounds (Tovey, K. C., Spiller, G. H., Oldham, K. G., Lucas, N. & Carr, N. G.) 47-56
- Carbon isotope (¹⁴C), determination of the biosynthesis, recycling and total body pool of glucose in rats and rabbits *in vivo* after the administration of glucose labelled with ³H and (Katz, J., Dunn, A., Chenoweth, M. & Golden, S.) 171-183
- Carbon isotope (¹⁴C), use of *Anacystis nidulans* for the preparation of compounds uniformly labelled with (Tovey, K. C., Spiller, G. H., Oldham, K. G., Lucas, N. & Carr, N. G.) 47-56
- 3-Carboxypropionyl-coenzyme A-3-oxo acid coenzyme A-transferase, comparison of the activities of, in various rat tissues (Fenselau, A. & Wallis, K.) 619-627
- 3-Carboxypropionyl-coenzyme A, steady-state concentrations of coenzyme A, acetyl-coenzyme A and, in blowfly flight muscle and isolated mitochondria and the control of tricarboxylic acid-cycle oxidations (Hansford, R. G.) 509-519
- Carnitine, biosynthesis of trimethylaminobutyrate and, in rat tissues (Cox, R. A. & Hoppel, C. L.) 699-701
- Cations, univalent, influences of extracellular pH, intracellular adenosine triphosphate and the efflux of, on the influx of calcium ions into human erythrocytes during cold storage (Mouat, B. & Long, C.) 629-636
- Cell proliferation, effects of 5 α -dihydrotestosterone on the kinetics of, in regenerating rat prostate gland (Lesser, B. & Bruchofsky, N.) 483-489
- Cells, adrenal-gland, rat, dispersed, effects of potassium ions, 5-hydroxytryptamine, adrenocorticotrophin and angiotensin II on the concentration of adenosine 3':5'-cyclic monophosphate in suspensions of (Albano, J. D. M., Brown, B. L., Ekins, R. P., Tait, S. A. S. & Tait, J. F.) 391-400
- Cells, adrenal-gland, rat, isolated, measurement of the dynamics of stimulation and inhibition of steroidogenesis in, by using column perfusion (Lowry, P. J. & McMartin, C.) 287-294
- Cells, fibroblast, WI 38, human, effects of prostaglandin E₁ and 8-methylthioadenosine 3':5'-cyclic monophosphate on the growth and division of (Kurtz, M. J., Polgar, P., Taylor, L. & Rutenburg, A. M.) 339-344
- Cells, HeLa, topology of the 45S precursor involved in the biosynthesis of ribosomal ribonucleic acids in nuclei isolated from (Hadjiolov, A. A. & Milchev, G. I.) 263-272
- Cells, liver, rat, isolated, effect of lysine on gluconeogenesis from lactate in (Cornell, N. W., Lund, P. & Krebs, H. A.) 327-337
- Cerebral cortex, ox, inhibition by free and membrane-bound calcium ions of the intrinsic activity of adenosine 3':5'-cyclic monophosphate-stimulated protein kinase in fragments of synaptic membrane from (Weller, M. & Rodnight, R.) 605-609
- Cerebral cortex, rat, contribution by the intraterminal mitochondria to the biosynthesis of protein by synaptosomes from (Hernández, A. G.) 7-17
- α -(*p*-Chlorophenoxy)isobutyrate, sodium, mode of inhibition by, of energy transduction by rat liver mitochondria (Panini, S. R. & Ramakrishna Kurup, C. K.) 253-261
- Chloroplasts, biosynthesis of polyprenyltoluquinols from homogentisate and polyprenyl pyrophosphates by particulate fractions rich in, from *Euglena gracilis* and sugar-beet leaves (Thomas, G. & Threlfall, D. R.) 437-440
- Chloroplasts, pea-leaf, differential scattering of circularly polarized light by, and evaluation of their true circular dichroism (Gregory, R. P. F. & Raps, S.) 193-201
- Chloroplasts, pea-leaf, isolated, inhibition and uncoupling by organotin, organomercury and diphenyleiiodonium compounds of photophosphorylation in (Watling-Payne, A. S. & Selwyn, M. J.) 65-74
- Cholecalciferol, metabolism of biologically active analogues of, in the chick and the rat (Lawson, D. E. M. & Bell, P. A.) 37-46
- 5,6-*trans*-Cholecalciferol, metabolism of dihydrotachysterol and, in the chick and the rat (Lawson, D. E. M. & Bell, P. A.) 37-46
- Cholesterol, biosynthesis of, and other sterols in the sea-urchin *Echinus esculentus* (Smith, A. G. & Goad, L. J.) 421-427
- Cholesterol, effects of 2,4-dichlorophenoxyacetate and 2,4,5-trichlorophenoxyacetate on the biosynthesis of fatty acids and, in rat liver homogenates (Olson, R. J., Trumble, T. E. & Gamble, W.) 445-448
- Cholesterol, mechanism of the inhibition by, of the biosynthesis of tetrahymanol in *Tetrahymana pyriformis* (Beedle, A. S., Munday, K. A. & Wilton, D. C.) 57-64
- Choline, effects of the injection of methionine on the concentrations of, and other constituents in the liver

- of vitamin B₁₂-deficient sheep (Smith, R. M., Osborne-White, W. S. & Gawthorne, J. M.) 105-117
- Chromaffin granules, adrenal-gland-medulla, ox, binding of calcium ions to the surface of (Dean, P. M. & Matthews, E. K.) 637-640
- Citrate, role of long-chain fatty acyl-coenzyme A thioesters and, in the hormonal regulation of the activity of acetyl-coenzyme A carboxylase in rat epididymal adipose tissue (Halestrap, A. P. & Denton, R. M.) 365-377
- Citric acid cycle, *see* Tricarboxylic acid cycle
- Citrulline, adaptive changes in the capacity of systems used for the biosynthesis of, in rat liver mitochondria in response to high-protein and low-protein diets (McGivan, J. D., Bradford, N. M. & Chappell, J. B.) 359-364
- Coenzyme A, steady-state concentrations of acetyl-coenzyme A, 3-carboxypropionyl-coenzyme A and, in blowfly flight muscle and isolated mitochondria and the control of tricarboxylic acid-cycle oxidations (Hansford, R. G.) 509-519
- Collagen, influence of the administration of ascorbate on ribosomal patterns and the biosynthesis of, in healing wounds of scorbutic guinea pigs (Harwood, R., Grant, M. E. & Jackson, D. S.) 641-651
- Corticotrophin, *see* Adrenocorticotrophin
- Cyclic adenosine 3':5'-monophosphate, *see* Adenosine 3':5'-cyclic monophosphate
- Cyclic guanosine 3':5'-monophosphate, *see* Guanosine 3':5'-cyclic monophosphate
- Cyclitol glucosides, role of, in the biosynthesis of a glucan from uridine diphosphate glucose in mung-bean seedlings (Kemp, J. & Loughman, B. C.) 153-159
- Cytochrome *c* oxidase, effect of energization on the apparent Michaelis-Menten constant for, in respiration by rat liver mitochondria (Petersen, L. C., Nicholls, P. & Degn, H.) 247-252
- Cytosol fraction, lymphocyte, pig, breakdown of phosphatidylinositol catalysed by, at pH 5.5 and pH 7.0 (Allan, D. & Michell, R. H.) 591-597
- Cytosol fraction, lymphocyte, pig, requirement for calcium ions at a low concentration in the breakdown of phosphatidylinositol catalysed by (Allan, D. & Michell, R. H.) 599-604
- DDT, *see* 1,1,1-Trichloro-2,2-bis-(*p*-chlorophenyl)ethane
- Deoxyribonucleic acid, effects of 5 α -dihydrotestosterone on the biosynthesis of, and the kinetics of cell proliferation in regenerating rat prostate gland (Lesser, B. & Bruchovsky, N.) 483-489
- Deoxyribonucleic acid, inhibition by lomofungin of the biosynthesis of ribonucleic acid and, in *Saccharomyces cerevisiae* (Cannon, M. & Jimenez, A.) 457-463
- Deoxyribonucleic acid, relationship between changes in the activity of thymidine kinase and the biosynthesis of, in rat heart muscle during embryonic and postnatal development (Gillette, P. C. & Claycomb, W. C.) 685-690
- Development, embryonic and postnatal, changes in the activity of thymidine kinase in rat heart muscle during (Gillette, P. C. & Claycomb, W. C.) 685-690
- Development, neonatal, pathways of gluconeogenesis from L-serine in rat liver during (Snell, K.) 433-436
- Development, postnatal, turnover of myelin proteins and other structural proteins in rat brain during (Sabri, M. I., Bone, A. H. & Davison, A. N.) 499-507
- Development, postnatal, use of compartmental analysis of isotopic data for estimation of the rates of utilization of glucose and ketone bodies in rat brain during (Cremer, J. E. & Heath, D. F.) 527-544
- Diabetes, evaluation of the tissue distribution and excretion of radioactivity after the administration of specifically ¹⁴C-labelled streptozotocin to the rat with reference to the induction of (Karunanayake, E. H., Hearse, D. J. & Mellows, G.) 673-683
- Dibucaine, effects of, and other local anaesthetics on hormone-stimulated lipolysis and on the concentration of adenosine 3':5'-cyclic monophosphate in isolated rat epididymal fat-cells (Siddle, K. & Hales, C. N.) 345-351
- 6-*N*,2'-*O*-Dibutyryladenosine 3':5'-cyclic monophosphate, stimulation by, and glucocorticoids of the activity of phosphoenolpyruvate carboxykinase in isolated perfused rat liver (Huttner, W. B., Krone, W., Seitz, H. J. & Tarnowski, W.) 691-693
- Dicarboxylate anion carrier, possible involvement of, in the transport of inorganic sulphate and sulphite by rat liver mitochondria (Crompton, M., Palmieri, F., Capano, M. & Quagliariello, E.) 127-137
- Dichloroacetate, sodium, metabolic effects of the infusion of, in the starved rat (Blackshear, P. J., Holloway, P. A. H. & Alberti, K. G. M. M.) 279-286
- 2,4-Dichlorophenoxyacetate, effects of 2,4,5-trichlorophenoxyacetate and, on the biosynthesis of cholesterol and fatty acids in rat liver homogenates (Olson, R. J., Trumble, T. E. & Gamble, W.) 445-448
- Dictyostelium discoideum* A.T.C.C. 24397, control of the biosynthesis of saccharides during differentiation of myxamoebae of, containing different amounts of glycogen (Hames, B. D. & Ashworth, J. M.) 317-325
- Dictyostelium discoideum* A.T.C.C. 24397, metabolism of macromolecules during differentiation of myxamoebae of, containing different amounts of glycogen (Hames, B. D. & Ashworth, J. M.) 301-315
- Diet, adaptive changes in the capacity of systems used for the biosynthesis of citrulline in rat liver mitochondria in response to differences in the protein content of (McGivan, J. D., Bradford, N. M. & Chappell, J. B.) 359-364
- Diet, concentration of elongation factor 2 for protein synthesis in rat skeletal muscle during depletion of protein in, and subsequent re-feeding (Alexis, S. D., Young, V. R. & Gill, D. M.) 185-188
- Dihydropteridine reductase, liver, rat, role of, in the regulation by glucagon of the metabolism of phenylalanine (Brand, L. M. & Harper, A. E.) 231-245
- Dihydrotachysterol, metabolism of 5,6-*trans*-cholecalciferol and, in the chick and the rat (Lawson, D. E. M. & Bell, P. A.) 37-46
- 5 α -Dihydrotestosterone (17 β -hydroxy-5 α -androstan-3-one), effect of duration of the period after castration on the response of the rat ventral prostate gland to the administration of (Lesser, B. & Bruchovsky, N.) 429-431
- 5 α -Dihydrotestosterone (17 β -hydroxy-5 α -androstan-3-one), effects of, on the kinetics of cell proliferation

- tion in regenerating rat prostate gland (Lesser, B. & Bruchovsky, N.) 483-489
- Diphenylethylidonium sulphate, inhibition and uncoupling by organotin and organomercury compounds and, of photophosphorylation in isolated pea-leaf chloroplasts (Watling-Payne, A. S. & Selwyn, M. J.) 65-74
- Echinus esculentus*, see Sea-urchin
- Electron transport, reconstitution of functional respiratory chains in membranes from mutants of *Escherichia coli* deficient in, as demonstrated by quenching of atebirin fluorescence (Haddock, B. A. & Downie, J. A.) 703-706
- Elongation factor 2, concentration of, for protein biosynthesis in rat skeletal muscle during protein depletion and re-feeding (Alexis, S. D., Young, V. R. & Gill, D. M.) 185-188
- Endoplasmic reticulum, see Reticulum, endoplasmic
- Energy transduction, mode of inhibition by sodium α -(*p*-chlorophenoxy)isobutyrate of, by rat liver mitochondria (Panini, S. R. & Ramakrishna Kurup, C. K.) 253-261
- Epididymis, rat, effects of local anaesthetics on hormone-stimulated lipolysis and on the concentration of adenosine 3':5'-cyclic monophosphate in fat-cells isolated from (Siddle, K. & Hales, C. N.) 345-351
- Epididymis, rat, relationship between the concentration of adenosine 3':5'-cyclic monophosphate and the anti-lipolytic action of insulin in fat-cells isolated from (Siddle, K. & Hales, C. N.) 97-103
- Epididymis, rat, role of long-chain fatty acyl-coenzyme A thioesters and citrate in the hormonal regulation of the activity of acetyl-coenzyme A carboxylase in adipose tissue of (Halestrap, A. P. & Denton, R. M.) 365-377
- Epithelial cells, small-intestinal, guinea-pig and rat, activity of phosphodiesterase II in (Flanagan, P. R. & Zbarsky, S. H.) 545-553
- Epithelium, skin, human, role of, in the photodecomposition of bilirubin (Kapoor, C. L., Krishna Murti, C. R. & Bajpai, P. C.) 567-573
- Erythrocytes, human, influences of extracellular pH, intracellular adenosine triphosphate and efflux of univalent cations on the influx of calcium ions into, during cold storage (Mouat, B. & Long, C.) 629-636
- Erythrocytes, pig, transport of calcium ions by membrane vesicles prepared from (Buckley, J. T.) 521-526
- Escherichia coli*, effects of ricin on the biosynthesis of protein by rat liver mitochondria and nuclei and by ribosomes from (Greco, M., Montanaro, L., Novello, F., Saccone, C., Sperti, S. & Stirpe, F.) 695-697
- Escherichia coli*, reconstitution of functional respiratory chains in membranes from electron-transport-deficient mutants of, as demonstrated by quenching of atebirin fluorescence (Haddock, B. A. & Downie, J. A.) 703-706
- Estradiol, see Oestradiol
- Ethanedioxybis(ethylamine)tetra-acetate, use of, as a topological tool in a study of the binding of calcium ions by rat liver mitochondria (Reed, K. C. & Bygrave, F. L.) 555-566
- Ethanol, reversal by lysine of the inhibition by, of gluconeogenesis from lactate in isolated rat liver cells (Cornell, N. W., Lund, P. & Krebs, H. A.) 327-337
- Euglena gracilis*, biosynthesis of polyprenyltoluquinols from homogentisate and polyprenyl pyrophosphates by chloroplast-rich particulate fractions from sugar-beet leaves and (Thomas, G. & Threlfall, D. R.) 437-440
- Fat-cells, epididymal, rat, isolated, effects of local anaesthetics on hormone-stimulated lipolysis and on the concentration of adenosine 3':5'-cyclic monophosphate in (Siddle, K. & Hales, C. N.) 345-351
- Fat-cells, epididymal, rat, isolated, relationship between the concentration of adenosine 3':5'-cyclic monophosphate and the anti-lipolytic action of insulin in (Siddle, K. & Hales, C. N.) 97-103
- Fat-cells, perirenal-adipose-tissue, rabbit, isolated, lipogenesis in (Saggerson, E. D.) 477-482
- Fatty acids, biosynthesis of, in isolated rabbit perirenal-adipose-tissue fat-cells (Saggerson, E. D.) 477-482
- Fatty acids, biosynthesis of, in perfused mouse liver (Salmon, D. M. W., Bowen, N. L. & Hems, D. A.) 611-618
- Fatty acids, effects of 2,4-dichlorophenoxyacetate and 2,4,5-trichlorophenoxyacetate on the biosynthesis of cholesterol and, in rat liver homogenates (Olson, R. J., Trumble, T. E. & Gamble, W.) 445-448
- Fatty acyl (long-chain)-coenzyme A thioesters, role of citrate and, in the hormonal regulation of the activity of acetyl-coenzyme A carboxylase in rat epididymal adipose tissue (Halestrap, A. P. & Denton, R. M.) 365-377
- Fibroblast cells, WI 38, human, effects of prostaglandin E₁ and 8-methylthioadenosine 3':5'-cyclic monophosphate on the growth and division of (Kurtz, M. J., Polgar, P., Taylor, L. & Rutenburg, A. M.) 339-344
- Flight muscle, see Muscle, flight
- Folates, effects of the injection of methionine on the concentrations of liver constituents association with the metabolism of, in vitamin B₁₂-deficient sheep (Smith, R. M., Osborne-White, W. S. & Gawthorne, J. M.) 105-117
- Folates, effects of the injection of methionine on the transport of methotrexate and the activities of enzymes associated with the metabolism of, in liver of vitamin B₁₂-deficient sheep (Gawthorne, J. M. & Smith, R. M.) 119-126
- D-Galactosamine, cumulative inhibition by, of the secretion of proteins and glycoproteins by the Golgi apparatus of rat liver (Bauer, C. H., Lukasczek, R. & Reutter, W. G.) 221-230
- Germination, development of the activities of ribonuclease and acid phosphatase during, of pea seeds (Barker, G. R., Bray, C. M. & Walter, T. J.) 211-219
- Glucagon, effects of the administration of, on the metabolism of phenylalanine in the rat (Brand, L. M. & Harper, A. E.) 231-245
- Glucan, role of cyclitol glucosides in the biosynthesis of, from uridine diphosphate glucose in mung-bean seedlings (Kemp, J. & Loughman, B. C.) 153-159
- Glucocorticoids, stimulation by 6-*N*,2'-*O*-dibutyryladenosine 3':5'-cyclic monophosphate of the activity of phosphoenolpyruvate carboxylase in isolated perfused rat liver (Huttner, W. B., Krone, W., Seitz, H. J. & Tarnowski, W.) 691-693

- Gluconeogenesis, effect of lysine on, from lactate in isolated rat liver cells (Cornell, N. W., Lund, P. & Krebs, H. A.) 327-337
- Gluconeogenesis, effects of the infusion of sodium dichloroacetate on, in the starved rat (Blackshear, P. J., Holloway, P. A. H. & Alberti, K. G. M. M.) 279-286
- Gluconeogenesis, pathways of, from L-serine in rat liver during neonatal development (Snell, K.) 433-436
- Glucose, contributions of lactate and, as carbon sources in the biosynthesis of fatty acids in perfused mouse liver (Salmon, D. M. W., Bowen, N. L. & Hems, D. A.) 611-618
- Glucose, determination of the biosynthesis, recycling and total body pool of, in rats and rabbits *in vivo* after the administration of ^3H - and ^{14}C -labelled glucose (Katz, J., Dunn, A., Chenoweth, M. & Golden, S.) 171-183
- Glucose, effect of lysine on the formation of, from lactate in isolated rat liver cells (Cornell, N. W., Lund, P. & Krebs, H. A.) 327-337
- Glucose, effect of treatment with oxytetracycline on resistance to insulin and the concentration of, in the blood in the obese-hyperglycaemic mouse (Bégin-Heick, N., Bourassa, M. & Heick, H. M. C.) 465-475
- Glucose, effects of the infusion of sodium dichloroacetate on the concentrations of, and other metabolites in the liver and blood of the starved rat (Blackshear, P. J., Holloway, P. A. H. & Alberti, K. G. M. M.) 279-286
- Glucose, lipogenesis from, and other substrates in isolated rabbit perirenal-adipose-tissue fat-cells (Saggerson, E. D.) 477-482
- Glucose, pathways of the formation of, from L-serine in rat liver during neonatal development (Snell, K.) 433-436
- Glucose, theoretical evaluation of the turnover, total body pool and recycling of, and other compounds from specific-radioactivity curves obtained after the injection of radioactively labelled reversible and irreversible tracers (Katz, J., Rostami, H. & Dunn, A.) 161-170
- Glucose, use of compartmental analysis of isotopic data for estimation of the rates of utilization of ketone bodies and, in developing rat brain (Cremer, J. E. & Heath, D. F.) 527-544
- Glucosides, comparison of the activities of rabbit and mouse liver preparations in the formation of (Labow, R. S. & Layne, D. S.) 75-78
- Glycosyltransferases, comparison of the activities of, in rabbit and mouse liver preparations (Labow, R. S. & Layne, D. S.) 75-78
- β -Glucuronidase, androgen-stimulated increase in the activity of, in mouse kidney Golgi apparatus after the administration of gonadotrophin (Marsh, C. A., Lin, C.-W. & Fishman, W. H.) 491-497
- Glutamate, adaptive changes in the system for the transport of, in rat liver mitochondria in response to high-protein and low-protein diets (McGivan, J. D., Bradford, N. M. & Chappell, J. B.) 359-364
- Glutamate, use of compartmental analysis of isotopic data for estimation of the rates of formation of aspartate, glutamine and, from glucose and ketone bodies in developing rat brain (Cremer, J. E. & Heath, D. F.) 527-544
- Glutamine, use of compartmental analysis of isotopic data for estimation of the rates of formation of aspartate, glutamate and, from glucose and ketone bodies in developing rat brain (Cremer, J. E. & Heath, D. F.) 527-544
- Glycine, free, specific radioactivities of free serine and, after the infusion of [^{14}C]glycine as a basis for measuring the rate of biosynthesis of protein in various tissues of the rat *in vivo* (Fern, E. B. & Garlick, P. J.) 413-419
- Glycogen, control of the biosynthesis of saccharides during differentiation of myxamoebae of *Dictyostelium discoideum* A.T.C.C. 24397 containing different amounts of (Hames, B. D. & Ashworth, J. M.) 317-325
- Glycogen, metabolism of macromolecules during differentiation of myxamoebae of *Dictyostelium discoideum* A.T.C.C. 24397 containing different amounts of (Hames, B. D. & Ashworth, J. M.) 301-315
- Glycogen, role of, in the biosynthesis of fatty acids in perfused mouse liver (Salmon, D. M. W., Bowen, N. L. & Hems, D. A.) 611-618
- Glycolysis, rate and extent of, in a reconstituted mixture of skeletal-muscle glycolytic enzymes in simulated post-mortem conditions (Scopes, R. K.) 79-86
- Glycoproteins, cumulative inhibition by D-galactosamine of the secretion of proteins and, by the Golgi apparatus of rat liver (Bauer, C. H., Lukasczek, R. & Reutter, W. G.) 221-230
- Glycosyltransferases, characterization of, in Golgi apparatus membranes of onion stem (Powell, J. T. & Brew, K.) 203-209
- Golgi apparatus, amounts and rates of export of polysaccharides found within, and other components of the membrane system of maize-root cells (Bowles, D. J. & Northcote, D. H.) 139-144
- Golgi apparatus, kidney, mouse, androgen-stimulated increase in the activity of β -glucuronidase in, after the administration of gonadotrophin (Marsh, C. A., Lin, C.-W. & Fishman, W. H.) 491-497
- Golgi apparatus, liver, rat, cumulative inhibition by D-galactosamine of the secretion of proteins and glycoproteins by (Bauer, C. H., Lukasczek, R. & Reutter, W. G.) 221-230
- Golgi apparatus, onion-stem, characterization of glycosyltransferases in membranes of (Powell, J. T. & Brew, K.) 203-209
- Gonadotrophin, androgen-stimulated increase in the activity of β -glucuronidase in mouse kidney Golgi apparatus after the administration of (Marsh, C. A., Lin, C.-W. & Fishman, W. H.) 491-497
- Growth hormone, increase in the concentration of adenosine 3':5'-cyclic monophosphate in and potentiation of the release of, by heifer anterior-pituitary-gland slices incubated in the presence of 3-isobutyl-1-methylxanthine (Schofield, J. G. & McPherson, M.) 295-300
- Guanosine 3':5'-cyclic monophosphate, possible role for, in the regulation of the biosynthesis and secretion of insulin by guinea-pig pancreas islets of Langerhans (Howell, S. L. & Montague, W.) 379-384
- Guanylate cyclase, regulation of the activity of, in guinea-pig pancreas islets of Langerhans (Howell, S. L. & Montague, W.) 379-384

- Heart muscle, rat, changes in the activity of thymidine kinase in, during embryonic and postnatal development (Gillette, P. C. & Claycomb, W. C.) 685-690
- Heart, rat and sheep, production and utilization of acetate in, and other tissues (Knowles, S. E., Jarrett, I. G., Filsell, O. H. & Ballard, F. J.) 401-411
- Heart, rat, comparison of the activities of 3-oxo acid coenzyme A-transferase in, and other tissues (Fenselau, A. & Wallis, K.) 619-627
- Heart, rat, specific radioactivities of free glycine and free serine after the infusion of [U-¹⁴C]glycine as a basis for measuring the rate of biosynthesis of protein in, and other tissues *in vivo* (Fern, E. B. & Garlick, P. J.) 413-419
- HeLa cells, topology of the 45S precursor involved in the biosynthesis of ribosomal ribonucleic acids in nuclei isolated from (Hadjiolov, A. A. & Milchev, G. I.) 263-272
- Hepatocytes, rat, isolated, effect of lysine on gluconeogenesis from lactate in (Cornell, N. W., Lund, P. & Krebs, H. A.) 327-337
- Homogenisate, biosynthesis of polyprenyltoluquinols from polyprenyl pyrophosphates and, by chloroplast-rich particulate fractions from *Euglena gracilis* and sugar-beet leaves (Thomas, G. & Threlfall, D. R.) 437-440
- Hydrogen isotope (³H), determination of the biosynthesis, recycling and total body pool of glucose in rats and rabbits *in vivo* after the administration of glucose labelled with ¹⁴C and (Katz, J., Dunn, A., Chenoweth, M. & Golden, S.) 171-183
- 17 β -Hydroxy-5 α -androstane-3-one (5 α -dihydrotestosterone), effect of duration of the period after castration on the response of the rat ventral prostate gland to the administration of (Lesser, B. & Bruchovsky, N.) 429-431
- 17 β -Hydroxy-5 α -androstane-3-one (5 α -dihydrotestosterone), effects of, on the kinetics of cell proliferation in regenerating rat prostate gland (Lesser, B. & Bruchovsky, N.) 483-489
- 3-Hydroxybutyrate, use of compartmental analysis of isotopic data for estimation of the rates of utilization of glucose and, in developing rat brain (Cremer, J. E. & Heath, D. F.) 527-544
- 4-Hydroxyphenethylamine (tyramine), effect of the oral administration of inorganic sulphate on the metabolism of, as measured by the excretion of 4-hydroxyphenethylamine *O*-sulphate in human urine (Smith, I. & Mitchell, P. D.) 189-191
- 5-Hydroxytryptamine, effects of, and other agents stimulating steroidogenesis on the concentration of adenosine 3':5'-cyclic monophosphate in suspensions of dispersed rat adrenal-gland zona glomerulosa and zona fasciculata cells (Albano, J. D. M., Brown, B. L., Ekins, R. P., Tait, S. A. S. & Tait, J. F.) 391-400
- Hyperglycaemia, effect of treatment with oxytetracycline on resistance to insulin and, in the obese-hyperglycaemic mouse (Bégin-Heick, N., Bourassa, M. & Heick, H. M. C.) 465-475
- Hypocotyl tissue, lupin, phytochrome-induced biosynthesis of ribonuclease *de novo* in sections of (Acton, G. J. & Schopfer, P.) 449-455
- myo*-Inositol 1:2-cyclic monophosphate, formation of, during the breakdown of phosphatidylinositol catalysed by pig lymphocyte cytosol fraction at pH 5.5 and pH 7.0 (Allan, D. & Michell, R. H.) 591-597
- myo*-Inositol glucosides, role of, in the biosynthesis of a glucan from uridine diphosphate glucose in mung-bean seedlings (Kemp, J. & Loughman, B. C.) 153-169
- Insulin, effect of treatment with oxytetracycline on resistance to, in the obese-hyperglycaemic mouse (Bégin-Heick, N., Bourassa, M. & Heick, H. M. C.) 465-475
- Insulin, mode of action of tolbutamide in stimulating the release of, by perfused rat pancreas (Bowen, V. & Lazarus, N. R.) 385-389
- Insulin, possible role for guanosine 3':5'-cyclic monophosphate in the regulation of the biosynthesis and secretion of, by guinea-pig pancreas islets of Langerhans (Howell, S. L. & Montague, W.) 379-384
- Insulin, relationship between the concentration of adenosine 3':5'-cyclic monophosphate and the antilipolytic action of, in isolated rat epididymal fat-cells (Siddle, K. & Hales, C. N.) 97-103
- Insulin, role of long-chain fatty acyl-coenzyme A thioesters and citrate in the regulation by adrenaline and, of the activity of acetyl-coenzyme A carboxylase in rat epididymal adipose tissue (Halestrap, A. P. & Denton, R. M.) 365-377
- Intestine, small, guinea-pig and rat, activity of phosphodiesterase II in epithelial cells of (Flanagan, P. R. & Zbarsky, S. H.) 545-553
- Intestine, small, rat, specific radioactivities of free glycine and free serine after the infusion of [U-¹⁴C]glycine as a basis for measuring the rate of biosynthesis of protein in, and other tissues *in vivo* (Fern, E. B. & Garlick, P. J.) 413-419
- Islets of Langerhans, pancreas, guinea-pig, regulation of the activity of guanylate cyclase in (Howell, S. L. & Montague, W.) 379-384
- Islets of Langerhans, pancreas, rat, involvement of adenylate cyclase in the stimulation by tolbutamide of the release of insulin by (Bowen, V. & Lazarus, N. R.) 385-389
- Islets of Langerhans, pancreatic, mouse, isolated, effect of starvation on the activity of phosphodiesterases and the concentration of adenosine 3':5'-cyclic monophosphate in (Capito, K. & Hedeskov, C. J.) 653-658
- 3-Isobutyl-1-methylxanthine, increase in the concentration of adenosine 3':5'-cyclic monophosphate in and potentiation of the release of growth hormone from heifer anterior-pituitary-gland slices incubated in the presence of (Schofield, J. G. & McPherson, M.) 295-300
- Isotopes, radioactive, theoretical evaluation of the turnover, total body pool and recycling of glucose and other compounds from specific-radioactivity curves obtained after the injection of reversible and irreversible tracers labelled with (Katz, J., Rostami, H. & Dunn, A.) 161-170
- Ketone bodies, effects of the infusion of sodium dichloroacetate on the metabolism of, in the starved rat (Blackshear, P. J., Holloway, P. A. H. & Alberti, K. G. M. M.) 279-286

- Ketone bodies, use of compartmental analysis of isotopic data for estimation of the rates of utilization of glucose and, in developing rat brain (Cremer, J. E. & Heath, D. F.) 527-544
- Kidney cortex, rabbit, rapid method for the preparation of microvilli from the brush border of (Booth, A. G. & Kenny, A. J.) 575-581
- Kidney, mouse, androgen-stimulated increase in the activity of β -glucuronidase in the Golgi apparatus of, after the administration of gonadotrophin (Marsh, C. A., Lin, C.-W. & Fishman, W. H.) 491-497
- Kidney, rat and sheep, production and utilization of acetate in, and other tissues (Knowles, S. E., Jarrett, I. G., Filsell, O. H. & Ballard, F. J.) 401-411
- Kidney, rat, comparison of the activities of 3-oxo acid coenzyme A-transferase in, and other tissues (Fenselau, A. & Wallis, K.) 619-627
- Kidney, rat, differences in the mechanisms for the regulation of the activity of nuclear nicotinamide-adenine dinucleotide phosphate-dependent 3-oxo 5 α -steroid reductase in rat liver, rat prostate gland and (Gustafsson, J.-A. & Pousette, A.) 273-277
- Kidney, rat, progesterone-induced lysis of lysosomes from, studied by changes in light-absorbance (Badenoch-Jones, P. & Baum, H.) 1-6
- Kidney, rat, role of adenosine 3':5'-cyclic monophosphate in the action of 1,1,1-trichloro-2,2-bis-(*p*-chlorophenyl)-ethane (DDT) on carbohydrate metabolism in, and liver (Kacew, S. & Singhal, R. L.) 145-152
- Kidney, rat, specific radioactivities of free glycine and free serine after the infusion of [U-¹⁴C]glycine as a basis for measuring the rate of biosynthesis of protein in, and other tissues *in vivo* (Fern, E. B. & Garlick, P. J.) 413-419
- Lactate, contributions of glucose and, as carbon sources in the biosynthesis of fatty acids in perfused mouse liver (Salmon, D. M. W., Bowen, N. L. & Hems, D. A.) 611-618
- Lactate, effect of lysine on gluconeogenesis from, in isolated rat liver cells (Cornell, N. W., Lund, P. & Krebs, H. A.) 327-337
- Lactate, effects of the infusion of sodium dichloroacetate on the concentrations of, and other metabolites in the liver and blood of the starved rat (Blackshear, P. J., Holloway, P. A. H. & Alberti, K. G. M. M.) 279-286
- Lactate, use of compartmental analysis of isotopic data for estimation of the rate of exchange of, between blood and brain in the developing rat (Cremer, J. E. & Heath, D. F.) 527-544
- Lactation, changes in the activity of the pyruvate dehydrogenase complex in rat mammary gland during pregnancy and weaning (Coore, H. G. & Field, B.) 87-95
- Lactation, metabolic adaptations during the biosynthesis of lactose in rabbit mammary gland during pregnancy and (Mellenberger, R. W. & Bauman, D. E.) 659-665
- Lactogenesis, metabolic adaptations during, in rabbit mammary gland during pregnancy and lactation (Mellenberger, R. W. & Bauman, D. E.) 659-665
- Lactose, metabolic adaptations during the biosynthesis of, in rabbit mammary gland during pregnancy and lactation (Mellenberger, R. W. & Bauman, D. E.) 659-665
- Leaves, pea, differential scattering of circularly polarized light by chloroplasts from, and evaluation of their true circular dichroism (Gregory, R. P. F. & Raps, S.) 193-201
- Leaves, pea, inhibition and uncoupling by organotin, organomercury and diphenyleioidonium compounds of photophosphorylation in chloroplasts isolated from (Watling-Payne, A. S. & Selwyn, M. J.) 65-74
- Leaves, sugar-beet, biosynthesis of polyprenyltoluquinols from homogentisate and polyprenyl pyrophosphates by chloroplast-rich particulate fractions from *Euglena gracilis* and (Thomas, G. & Threlfall, D. R.) 437-440
- Leucine, contribution by intraterminal mitochondria to the incorporation of, into protein by rat cerebral-cortex synaptosomes (Hernández, A. G.) 7-17
- Lipids, effects of the injection of methionine on the concentrations of, and other constituents in the liver of vitamin B₁₂-deficient sheep (Smith, R. M., Osborne-White, W. S. & Gawthorne, J. M.) 105-117
- Lipogenesis in isolated rabbit perirenal-adipose-tissue fat-cells (Saggerson, E. D.) 477-482
- Lipogenesis in perfused mouse liver (Salmon, D. M. W., Bowen, N. L. & Hems, D. A.) 611-618
- Lipogenesis, use of compartmental analysis of isotopic data for estimation of the rates of, from glucose and ketone bodies in developing rat brain (Cremer, J. E. & Heath, D. F.) 527-544
- Lipolysis, hormone-stimulated, effects of local anaesthetics on the concentration of adenosine 3':5'-cyclic monophosphate and on, in isolated rat epididymal fat-cells (Siddle, K. & Hales, C. N.) 345-351
- Lipolysis, relationship between the concentration of adenosine 3':5'-cyclic monophosphate and the inhibition by insulin of, in isolated rat epididymal fat-cells (Siddle, K. & Hales, C. N.) 97-103
- Liver cells, rat, isolated, effect of lysine on gluconeogenesis from lactate in (Cornell, N. W., Lund, P. & Krebs, H. A.) 327-337
- Liver, distribution of L-asparagine synthetase and L-asparaginase in, and other principal organs of various mammalian and avian species (Milman, H. A. & Cooney, D. A.) 27-35
- Liver, mouse, perfused, biosynthesis of fatty acids in (Salmon, D. M. W., Bowen, N. L. & Hems, D. A.) 611-618
- Liver, rabbit and mouse, comparison of the activities of preparations of, in the formation of glucosides (Labow, R. S. & Layne, D. S.) 75-78
- Liver, rat, adaptive changes in the capacity of systems used for the biosynthesis of citrulline in mitochondria from, in response to high-protein and low-protein diets (McGivan, J. D., Bradford, N. M. & Chappell, J. B.) 359-364
- Liver, rat and sheep, production and utilization of acetate in, and other tissues (Knowles, S. E., Jarrett, I. G., Filsell, O. H. & Ballard, F. J.) 401-411
- Liver, rat, biosynthesis of carnitine and trimethylamino-butylate in, and other tissues (Cox, R. A. & Hoppel, C. L.) 699-701
- Liver, rat, biosynthesis of phospholipids in endoplasmic reticulum of, after the administration of phenobarbitone and 20-methylcholanthrene (Davison, S. C. & Wills, E. D.) 19-26

- Liver, rat, comparison of the activities of 3-oxo acid coenzyme A-transferase in, and other tissues (Fenselau, A. & Wallis, K.) 619-627
- Liver, rat, cumulative inhibition by D-galactosamine of the secretion of proteins and glycoproteins by the Golgi apparatus of (Bauer, C. H., Lukaschek, R. & Reutter, W. G.) 221-230
- Liver, rat, differences in the mechanisms for the regulation of the activity of nuclear nicotinamide-adenine dinucleotide phosphate-dependent 3-oxo 5 α -steroid reductase in rat kidney, rat prostate gland and (Gustafsson, J.-A. & Pousette, A.) 273-277
- Liver, rat, effect of energization on the apparent Michaelis-Menten constant for oxygen in respiration by mitochondria from (Petersen, L. C., Nicholls, P. & Degn, H.) 247-252
- Liver, rat, effects of 2,4-dichlorophenoxyacetate and 2,4,5-trichlorophenoxyacetate on the biosynthesis of cholesterol and fatty acids in homogenates of (Olson, R. J., Trumble, T. E. & Gamble, W.) 445-448
- Liver, rat, effects of ricin on the biosynthesis of protein by mitochondria and nuclei from, and by ribosomes from *Escherichia coli* (Greco, M., Montanaro, L., Novello, F., Saccone, C., Sperti, S. & Stirpe, F.) 695-697
- Liver, rat, effects of the administration of glucagon on the activities of enzymes involved in the metabolism of phenylalanine in (Brand, L. M. & Harper, A. E.) 231-245
- Liver, rat, effects of the infusion of sodium dichloroacetate on the concentrations of metabolites in, in the starved animal (Blackshear, P. J., Holloway, P. A. H. & Alberti, K. G. M. M.) 279-286
- Liver, rat, heterogeneous distribution of enzymes among plasma-membrane fragments sedimenting with the microsomal fraction of (Norris, K. A., Dobrota, M., Issa, F. S., Hinton, R. H. & Reid, E.) 667-671
- Liver, rat, mode of inhibition by sodium α -(*p*-chlorophenoxy)isobutyrate of energy transduction by mitochondria from (Panini, S. R. & Ramakrishna Kurup, C. K.) 253-261
- Liver, rat, pathways of gluconeogenesis from L-serine in, during neonatal development (Snell, K.) 433-436
- Liver, rat, perfused, isolated, stimulation by 6-*N*,2'-dibutyryl adenosine 3':5'-cyclic monophosphate and glucocorticoids of the activity of phosphoenolpyruvate carboxykinase in (Huttner, W. B., Krone, W., Seitz, H. J. & Tarnowski, W.) 691-693
- Liver, rat, re-evaluation of the energy-independent binding of calcium ions by mitochondria from (Reed, K. C. & Bygrave, F. L.) 555-566
- Liver, rat, role of adenosine 3':5'-cyclic monophosphate in the action of 1,1,1-trichloro-2,2-bis-(*p*-chlorophenyl)-ethane (DDT) on carbohydrate metabolism in, and kidney (Kacew, S. & Singhal, R. L.) 145-152
- Liver, rat, specific radioactivities of free glycine and free serine after the infusion of [U-¹⁴C]glycine as a basis for measuring the rate of biosynthesis of protein in, and other tissues *in vivo* (Fern, E. B. & Garlick, P. J.) 413-419
- Liver, rat, transport of inorganic sulphate and sulphite by mitochondria from (Crompton, M., Palmieri, F., Capano, M. & Quagliariello, E.) 127-137
- Liver, sheep, effects of the injection of methionine on the concentrations of constituents associated with folate metabolism in, in vitamin B₁₂-deficient animals (Smith, R. M., Osborne-White, W. S. & Gawthorne, J. M.) 105-117
- Liver, sheep, effects of the injection of methionine on the transport of methotrexate and the activities of enzymes associated with folate metabolism in, in vitamin B₁₂-deficient animals (Gawthorne, J. M. & Smith, R. M.) 119-126
- Lomofungin, inhibition by, of the biosynthesis of nucleic acids in *Saccharomyces cerevisiae* (Cannon, M. & Jimenez, A.) 457-463
- Lupin (*Lupinus albus*), phytochrome-induced biosynthesis of ribonuclease *de novo* in sections of hypocotyl tissue from (Acton, G. J. & Schopfer, P.) 449-455
- Lupinus albus*, see Lupin
- Lymphocytes, pig, breakdown of phosphatidylinositol catalysed by the cytosol fraction from, at pH 5.5 and pH 7.0 (Allan, D. & Michell, R. H.) 591-597
- Lymphocytes, pig, requirement for calcium ions at a low concentration in the breakdown of phosphatidylinositol catalysed by the cytosol fraction from (Allan, D. & Michell, R. H.) 599-604
- Lysine, effect of, on gluconeogenesis from lactate in isolated rat liver cells (Cornell, N. W., Lund, P. & Krebs, H. A.) 327-337
- Lysosomes, kidney, rat, progesterone-induced lysis of, studied by changes in light-absorbance (Badenoch-Jones, P. & Baum, H.) 1-6
- Lysosomes, mucosal, small-intestinal, guinea-pig and rat, activity of phosphodiesterase II in, and other sub-cellular fractions (Flanagan, P. R. & Zbarsky, S. H.) 545-553
- Maize (*Zea mays*) roots, amounts and rates of export of polysaccharides found within the membrane system of the cells of (Bowles, D. J. & Northcote, D. H.) 139-144
- Mammary gland, rabbit, metabolic adaptations during the biosynthesis of lactose in, during pregnancy and lactation (Mellenberger, R. W. & Bauman, D. E.) 659-665
- Mammary gland, rat, changes in the activity of the pyruvate dehydrogenase complex in, during pregnancy, lactation and weaning (Coore, H. G. & Field, B.) 87-95
- Melanin, peroxidatic oxidation of tyrosine to, in the supernatant fraction of crude mouse melanoma homogenates (Patel, R. P., Okun, M. R., Edelstein, L. M. & Cariglia, N.) 441-443
- Melanoma, mouse, peroxidatic oxidation of tyrosine to melanin in the supernatant fraction of crude homogenates of (Patel, R. P., Okun, M. R., Edelstein, L. M. & Cariglia, N.) 441-443
- Membrane, plasma, liver, rat, heterogeneous distribution of enzymes among fragments of, sedimenting with the microsomal fraction (Norris, K. A., Dobrota, M., Issa, F. S., Hinton, R. H. & Reid, E.) 667-671
- Membrane, synaptic, cerebral-cortex, ox, inhibition by free and membrane-bound calcium ions of the intrinsic activity of adenosine 3':5'-cyclic monophosphate-stimulated protein kinase in fragments of (Weller, M. & Rodnight, R.) 605-609

- Membrane system, amounts and rates of export of polysaccharides found within, of maize-root cells (Bowles, D. J. & Northcote, D. H.) 139-144
- Membrane vesicles, erythrocyte, pig, transport of calcium ions by (Buckley, J. T.) 521-526
- Membranes, Golgi-apparatus, onion-stem, characterization of glycosyltransferases in (Powell, J. T. & Brew, K.) 203-209
- Membranes, reconstitution of functional respiratory chains in, from electron-transport-deficient mutants of *Escherichia coli* as demonstrated by quenching of atebirin fluorescence (Haddock, B. A. & Downie, J. A.) 703-706
- Methionine, effects of the injection of, on the concentrations of liver constituents associated with folate metabolism in vitamin B₁₂-deficient sheep (Smith, R. M., Osborne-White, W. S. & Gawthorne, J. M.) 105-117
- Methionine, effects of the injection of, on the transport of methotrexate and the activities of enzymes associated with folate metabolism in liver of vitamin B₁₂-deficient sheep (Gawthorne, J. M. & Smith, R. M.) 119-126
- Methotrexate, effects of the injection of methionine on the transport of, and the activities of enzymes associated with folate metabolism in liver of vitamin B₁₂-deficient sheep (Gawthorne, J. M. & Smith, R. M.) 119-126
- 20-Methylcholanthrene, biosynthesis of phospholipids in rat liver endoplasmic reticulum after the administration of (Davison, S. C. & Wills, E. D.) 19-26
- 8-Methylthioadenosine 3':5'-cyclic monophosphate, effects of prostaglandin E₁ and, on the growth and division of human WI 38 fibroblast cells (Kurtz, M. J., Polgar, P., Taylor, L. & Rutenburg, A. M.) 339-344
- Mevalonate, biosynthesis of sterols from, in the sea-urchin *Echinus esculentus* (Smith, A. G. & Goad, L. J.) 421-427
- Mevalonate, mechanism of the inhibition by cholesterol of the biosynthesis of tetrahymanol from, in *Tetrahymana pyriformis* (Beedle, A. S., Munday, K. A. & Wilton, D. C.) 57-64
- Microsomal fraction, cerebral-cortex, rat, characteristics of the biosynthesis of protein by, and synaptosomes (Hernández, A. G.) 7-17
- Microsomal fraction, liver, rat, heterogeneous distribution of enzymes among plasma-membrane fragments sedimenting with (Norris, K. A., Dobrota, M., Issa, F. S., Hinton, R. H. & Reid, E.) 667-671
- Microvilli, rapid method for the preparation of, from rabbit kidney-cortex brush border (Booth, A. G. & Kenny, A. J.) 575-581
- Mitochondria, flight-muscle, blowfly, changes in the concentrations of adenine nucleotides in (Danks, S. M. & Chappell, J. B.) 353-358
- Mitochondria, flight-muscle, blowfly, isolated, steady-state concentrations of coenzyme A, acetyl-coenzyme A and 3-carboxypropionyl-coenzyme A in, and the control of tricarboxylic acid-cycle oxidations (Hansford, R. G.) 509-519
- Mitochondria, intraterminal, contribution by, to the biosynthesis of protein by rat cerebral-cortex synaptosomes (Hernández, A. G.) 7-17
- Mitochondria, liver, rat, adaptive changes in the capacity of systems used for the biosynthesis of citrulline in, in response to high-protein and low-protein diets (McGivan, J. D., Bradford, N. M. & Chappell, J. B.) 359-364
- Mitochondria, liver, rat, effect of energization on the apparent Michaelis-Menten constant for oxygen in respiration by (Petersen, L. C., Nicholls, P. & Degn, H.) 247-252
- Mitochondria, liver, rat, effects of ricin on the biosynthesis of protein by, and nuclei and by ribosomes from *Escherichia coli* (Greco, M., Montanaro, L., Novello, F., Saccone, C., Sperti, S. & Stirpe, F.) 695-697
- Mitochondria, liver, rat, mode of inhibition by sodium α -(*p*-chlorophenoxy)isobutyrate of energy transduction by (Panini, S. R. & Ramakrishna Kurup, C. K.) 253-261
- Mitochondria, liver, rat, re-evaluation of the energy-independent binding of calcium ions by (Reed, K. C. & Bygrave, F. L.) 555-566
- Mitochondria, liver, rat, transport of inorganic sulphate and sulphite by (Crompton, M., Palmieri, F., Capano, M. & Quagliariello, E.) 127-137
- Mucosa, small-intestinal, guinea-pig and rat, activity of phosphodiesterase II in epithelial cells of (Flanagan, P. R. & Zbarsky, S. H.) 545-553
- Mung bean, *see* Bean, mung
- Muscle, flight, blowfly, changes in the concentrations of adenine nucleotides in mitochondria of (Danks, S. M. & Chappell, J. B.) 353-358
- Muscle, flight, blowfly, steady-state concentrations of coenzyme A, acetyl-coenzyme A and 3-carboxypropionyl-coenzyme A in, and isolated mitochondria and the control of tricarboxylic acid-cycle oxidations (Hansford, R. G.) 509-519
- Muscle, heart, rat, changes in the activity of thymidine kinase in, during embryonic and postnatal development (Gillette, P. C. & Claycombe, W. C.) 685-690
- Muscle, skeletal, rat and sheep, production and utilization of acetate in, and other tissues (Knowles, S. E., Jarrett, I. G., Filsell, O. H. & Ballard, F. J.) 401-411
- Muscle, skeletal, rat, comparison of the activities of 3-oxo acid coenzyme A-transferase in, and other tissues (Fenselau, A. & Wallis, K.) 619-627
- Muscle, skeletal, rat, concentration of elongation factor 2 for protein biosynthesis in, during protein depletion and re-feeding (Alexis, S. D., Young, V. R. & Gill, D. M.) 185-188
- Muscle, skeletal, rat, specific radioactivities of free glycine and free serine after the infusion of [U-¹⁴C]glycine as a basis for measuring the rate of biosynthesis of protein in, and other issues *in vivo* (Fern, E. B. & Garlick, P. J.) 413-419
- Muscle, skeletal, rate and extent of glycolysis in a reconstituted mixture of glycolytic enzymes from, in simulated post-mortem conditions (Scopes, R. K.) 79-86
- Myelin, turnover of the proteins of, and other structural proteins in developing rat brain (Sabri, M. I., Bone, A. H. & Davison, A. N.) 499-507
- Myxamoebae, *Dictyostelium discoideum* A.T.C.C. 24397, control of the biosynthesis of saccharides during differentiation of, containing different amounts of glycogen (Hames, B. D. & Ashworth, J. M.) 317-325
- Myxamoebae, *Dictyostelium discoideum* A.T.C.C. 24397, metabolism of macromolecules during differentiation of, containing different amounts of glycogen (Hames, B. D. & Ashworth, J. M.) 301-315

- Nuclei, HeLa-cell, isolated, topology of the 45S precursor involved in the biosynthesis of ribosomal ribonucleic acids in (Hadjiolov, A. A. & Milchev, G. I.) 263-272
- Nuclei, kidney, liver and prostate gland, differences in the mechanisms for the regulation of the activity of nicotinamide-adenine dinucleotide phosphate-dependent 3-oxo 5 α -steroid reductase in (Gustafsson, J.-A. & Pousette, A.) 273-277
- Nuclei, liver, rat, effects of ricin on the biosynthesis of protein by, and mitochondria and by ribosomes from *Escherichia coli* (Greco, M., Montanaro, L., Novello, F., Saccone, C., Sperti, S. & Stirpe, F.) 695-697
- Nucleic acids, inhibition by lomofungin of the biosynthesis of, in *Saccharomyces cerevisiae* (Cannon, M. & Jimenez, A.) 457-463
- 5'-Nucleotidase, heterogeneous distribution of, and other enzymes among plasma-membrane fragments sedimenting with the microsomal fraction of rat liver (Norris, K. A., Dobrota, M., Issa, F. S., Hinton, R. H. & Reid, E.) 667-671
- Nucleotides, uniformly ¹⁴C-labelled, use of *Anacystis nidulans* for the preparation of (Tovey, K. C., Spiller, G. H., Oldham, K. G., Lucas, N. & Carr, N. G.) 47-56
- Oestradiol-17 β , comparison of the activities of rabbit and mouse liver preparations in the formation of glucosides of, and related steroids (Labow, R. S. & Layne, D. S.) 75-78
- Onion (*Allium cepa*) stem, characterization of glycosyl-transferases in Golgi-apparatus membranes of (Powell, J. T. & Brew, K.) 203-209
- 3-Oxo acid coenzyme A-transferase, comparison of the activities of, in various rat tissues (Fenselau, A. & Wallis, K.) 619-627
- 3-Oxo 5 α -steroid reductase, nicotinamide-adenine dinucleotide phosphate-dependent, nuclear, differences in the mechanisms for the regulation of the activity of, in rat liver, kidney and prostate gland (Gustafsson, J.-A. & Pousette, A.) 273-277
- Oxygen, effect of energization on the apparent Michaelis-Menten constant for, in respiration by rat liver mitochondria (Petersen, L. C., Nicholls, P. & Degn, H.) 247-252
- Oxytetracycline, effect of treatment with, on resistance to insulin in the obese-hyperglycaemic mouse (Bégin-Heick, N., Bourassa, M. & Heick, H. M. C.) 465-475
- Pancreas, distribution of L-asparagine synthetase and L-asparaginase in, and other principal organs of various mammalian and avian species (Milman, H. A. & Cooney, D. A.) 27-35
- Pancreas, guinea-pig, regulation of the activity of guanylate cyclase in islets of Langerhans of (Howell, S. L. & Montague, W.) 379-384
- Pancreas, mouse, effect of starvation on the activity of phosphodiesterases and the concentration of adenosine 3':5'-cyclic monophosphate in islets of Langerhans isolated from (Capito, K. & Hedekov, C. J.) 653-658
- Pancreas, rat, accumulation of radioactivity in, after the administration of specifically ¹⁴C-labelled streptozotocin (Karunanayake, E. H., Hearse, D. J. & Mellows, G.) 673-683
- Pancreas, rat, perfused, mode of action of tolbutamide in stimulating the release of insulin by (Bowen, V. & Lazarus, N. R.) 385-389
- Parotid gland, rat, muscarinic cholinergic stimulation of the breakdown of phosphatidylinositol in fragments of (Jones, L. M. & Michell, R. H.) 583-590
- Pea (*Pisum arvense*) seeds, development of the activities of ribonuclease and acid phosphatase during germination of (Barker, G. R., Bray, C. M. & Walter, T. J.) 211-219
- Pea (*Pisum sativum*) leaves, differential scattering of circularly polarized light by chloroplasts from, and evaluation of their true circular dichroism (Gregory, R. P. F. & Raps, S.) 193-201
- Pea (*Pisum sativum*) leaves, inhibition and uncoupling by organotin, organomercury and diphenyleneiodonium compounds of photophosphorylation in chloroplasts isolated from (Watling-Payne, A. S. & Selwyn, M. J.) 65-74
- pH, extracellular, influences of intracellular adenosine triphosphate, efflux of univalent cations and, on the influx of calcium ions into human erythrocytes during cold storage (Mouat, B. & Long, C.) 629-636
- Phaseolus aureus*, see Bean, mung
- Phenobarbitone, biosynthesis of phospholipids in rat liver endoplasmic reticulum after the administration of (Davison, S. C. & Wills, E. D.) 19-26
- Phenylalanine, effects of the administration of glucagon on the metabolism of, in the rat (Brand, L. M. & Harper, A. E.) 231-245
- Phenylmercuric acetate, inhibition and uncoupling by diphenyleneiodonium sulphate, organotin compounds and, of photophosphorylation in isolated pea-leaf chloroplasts (Watling-Payne, A. S. & Selwyn, M. J.) 65-74
- Phormia regina*, see Blowfly
- Phosphatase, acid, development of the activities of ribonuclease and, during germination of pea seeds (Barker, G. R., Bray, C. M. & Walter, T. J.) 211-219
- Phosphatidylinositol, breakdown of, catalysed by pig lymphocyte cytosol fraction at pH 5.5 and pH 7.0 (Allan, D. & Michell, R. H.) 591-597
- Phosphatidylinositol, muscarinic cholinergic stimulation of the breakdown of, in fragments of rat parotid salivary gland (Jones, L. M. & Michell, R. H.) 583-590
- Phosphatidylinositol, requirement for calcium ions at a low concentration in the breakdown of, catalysed by pig lymphocyte cytosol fraction (Allan, D. & Michell, R. H.) 599-604
- Phosphodiesterase II, activity of, in epithelial cells of guinea-pig and rat small intestine (Flanagan, P. R. & Zbarsky, S. H.) 545-553
- Phosphodiesterases, effect of starvation on the activity of, and the concentration of adenosine 3':5'-cyclic monophosphate in isolated mouse pancreatic islets of Langerhans (Capito, K. & Hedekov, C. J.) 653-658
- Phosphoenolpyruvate carboxykinase, stimulation by 6-N,2'-O-dibutyryladenosine 3':5'-cyclic monophosphate and glucocorticoids of the activity of, in isolated perfused rat liver (Huttner, W. B., Krone, W., Seitz, H. J. & Tarnowski, W.) 691-693
- Phospholipids, biosynthesis of, in rat liver endoplasmic reticulum after the administration of phenobarbitone and 20-methylcholanthrene (Davison, S. C. & Wills, E. D.) 19-26

- Phosphorylation, photo-, inhibition and uncoupling by organotin, organomercury and diphenylmercuronium compounds of, in isolated pea-leaf chloroplasts (Watling-Payne, A. S. & Selwyn, M. J.) 65-74
- Photophosphorylation, inhibition and uncoupling by organotin, organomercury and diphenylmercuronium compounds of, in isolated pea-leaf chloroplasts (Watling-Payne, A. S. & Selwyn, M. J.) 65-74
- Phytochrome, induction by, of the biosynthesis of ribonuclease *de novo* in sections of lupin hypocotyl tissue (Acton, G. J. & Schopfer, P.) 449-455
- Pisum arvense*, see Pea
- Pisum sativum*, see Pea
- Pituitary gland, anterior, heifer, increase in the concentration of adenosine 3':5'-cyclic monophosphate and potentiation of the release of growth hormone from slices of, incubated in the presence of 3-isobutyl-1-methylxanthine (Schofield, J. G. & McPherson, M.) 295-300
- Plasma membrane, see Membrane, plasma
- Polyphosphoinositides, effects of adenosine triphosphate on the transport of calcium ions by and the concentrations of, in pig erythrocyte membrane vesicles (Buckley, J. T.) 521-526
- Polyprenyl pyrophosphates, biosynthesis of polyprenyl-toluquinols from homogentisate and, by chloroplast-rich particulate fractions from *Euglena gracilis* and sugar-beet leaves (Thomas, G. & Threlfall, D. R.) 437-440
- Polyprenyltoluquinols, biosynthesis of, from homogentisate and polyprenyl pyrophosphates by chloroplast-rich particulate fractions from *Euglena gracilis* and sugar-beet leaves (Thomas, G. & Threlfall, D. R.) 437-440
- Polysaccharides, amounts and rates of export of, found within the membrane system of maize-root cells (Bowles, D. J. & Northcote, D. H.) 139-144
- Polysaccharides, control of the biosynthesis of, and other saccharides during differentiation of myxamoebae of *Dictyostelium discoideum* A.T.C.C. 24397 containing different amounts of glycogen (Hames, B. D. & Ashworth, J. M.) 317-325
- Potassium ions, effects of, and other agents stimulating steroidogenesis on the concentration of adenosine 3':5'-cyclic monophosphate in suspensions of dispersed rat adrenal-gland zona glomerulosa and zona fasciculata cells (Albano, J. D. M., Brown, B. L., Ekins, R. P., Tait, S. A. S. & Tait, J. F.) 391-400
- Pregnancy, changes in the activity of the pyruvate dehydrogenase complex in rat mammary gland during, lactation and weaning (Coore, H. G. & Field, B.) 87-95
- Pregnancy, metabolic adaptations during the biosynthesis of lactose in rabbit mammary gland during, and lactation (Mellenberger, R. W. & Bauman, D. E.) 659-665
- Progesterone, induction by, of the lysis of rat kidney lysosomes studied by changes in light-absorbance (Badenoch-Jones, P. & Baum, H.) 1-6
- Prostaglandin E₁, effects of 8-methylthioadenosine 3':5'-cyclic monophosphate and, on the growth and division of human WI 38 fibroblast cells (Kurtz, M. J., Polgar, P., Taylor, L. & Rutenburg, A. M.) 339-344
- Prostaglandin E₂, increase in the concentration of adenosine 3':5'-cyclic monophosphate and potentiation of the release of growth hormone induced by, from heifer anterior-pituitary-gland slices incubated in the presence of 3-isobutyl-1-methylxanthine (Schofield, J. G. & McPherson, M.) 295-300
- Prostate gland, rat, differences in the mechanisms for the regulation of the activity of nuclear nicotinamide-adenine dinucleotide phosphate-dependent 3-oxo 5 α -steroid reductase in rat liver, rat kidney and (Gustafsson, J.-A. & Pousette, A.) 273-277
- Prostate gland, rat, regenerating, effects of 5 α -dihydro-testosterone on the kinetics of cell proliferation in (Lesser, B. & Bruchofsky, N.) 483-489
- Prostate gland, ventral, rat, effect of duration of the period after castration on the response of, to androgens (Lesser, B. & Bruchofsky, N.) 429-431
- Protein, adaptive changes in the capacity of systems used for the biosynthesis of citrulline in rat liver mitochondria in response to differences in the content of, in the diet (McGivan, J. D., Bradford, N. M. & Chappell, J. B.) 359-364
- Protein, concentration of elongation factor 2 for the biosynthesis of, in rat skeletal muscle during protein depletion and re-feeding (Alexis, S. D., Young, V. R. & Gill, D. M.) 185-188
- Protein, contribution by intraterminal mitochondria to the biosynthesis of, by rat cerebral-cortex synaptosomes (Hernández, A. G.) 7-17
- Protein, effects of ricin on the biosynthesis of, by rat liver mitochondria and nuclei and by ribosomes from *Escherichia coli* (Greco, M., Montanaro, L., Novello, F., Saccone, C., Sperti, S. & Stirpe, F.) 695-697
- Protein kinase, adenosine 3':5'-cyclic monophosphate-stimulated, inhibition by free and membrane-bound calcium ions of the intrinsic activity of, in fragments of ox cerebral-cortex synaptic membrane (Weller, M. & Rodnight, R.) 605-609
- Protein, specific radioactivities of free glycine and free serine after the infusion of [U-¹⁴C]glycine as a basis for measuring the rate of biosynthesis of, in various tissues of the rat *in vivo* (Fern, E. B. & Garlick, P. J.) 413-419
- Proteins, cumulative inhibition by D-galactosamine of the secretion of glycoproteins and, by the Golgi apparatus of rat liver (Bauer, C. H., Lukaschek, R. & Reutter, W. G.) 221-230
- Proteins, metabolism of ribonucleic acids and, during differentiation of myxamoebae of *Dictyostelium discoideum* A.T.C.C. 24397 containing different amounts of glycogen (Hames, B. D. & Ashworth, J. M.) 301-315
- Proteins, myelin, turnover of, and other structural proteins in developing rat brain (Sabri, M. I., Bone, A. H. & Davison, A. N.) 499-507
- Protocollagen, influence of the administration of ascorbate on ribosomal patterns and the biosynthesis of, in healing wounds of scorbutic guinea pigs (Harwood, R., Grant, M. E. & Jackson, D. S.) 641-651
- Pteroylpolyglutamate synthetase, effects of the injection of methionine on the activities of, and other enzymes associated with folate metabolism in liver of vitamin B₁₂-deficient sheep (Gawthorne, J. M. & Smith, R. M.) 119-126

- Pteroylpolyglutamates, effects of the injection of methionine on the concentrations of, and other constituents associated with folate metabolism in the liver of vitamin B₁₂-deficient sheep (Smith, R. M., Osborne-White, W. S. & Gawthorne, J. M.) 105-117
- Pyruvate dehydrogenase complex, mammary-gland, rat, changes in the activity of, during pregnancy, lactation and weaning (Coore, H. G. & Field, B.) 87-95
- Pyruvate, effects of the infusion of sodium dichloroacetate on the concentrations of, and other metabolites in the liver and blood of the starved rat (Blackshear, P. J., Holloway, P. A. H. & Alberti, K. G. M. M.) 279-286
- Red blood cells, *see* Erythrocytes
- Respiration, effect of energization on the apparent Michaelis-Menten constant for oxygen in, by rat liver mitochondria (Petersen, L. C., Nicholls, P. & Degn, H.) 247-252
- Respiratory chains, functional, reconstitution of, in membranes from electron-transport-deficient mutants of *Escherichia coli* as demonstrated by quenching of atebriin fluorescence (Haddock, B. A. & Downie, J. A.) 703-706
- Reticulum, endoplasmic, amounts and rates of export of polysaccharides found within, and other components of the membrane system of maize-root cells (Bowles, D. J. & Northcote, D. H.) 139-144
- Reticulum, endoplasmic, liver, rat, biosynthesis of phospholipids after the administration of phenobarbitone and 20-methylcholanthrene (Davison, S. C. & Wills, E. D.) 19-26
- Ribonuclease, development of the activities of acid phosphatase and, during germination of pea seeds (Barker, G. R., Bray, C. M. & Walter, T. J.) 211-219
- Ribonuclease, phytochrome-induced biosynthesis of, *de novo* in sections of lupin hypocotyl tissue (Acton, G. J. & Schopfer, P.) 449-455
- Ribonucleic acid, inhibition by lomofungin of the biosynthesis of deoxyribonucleic acid and, in *Saccharomyces cerevisiae* (Cannon, M. & Jimenez, A.) 457-463
- Ribonucleic acids, metabolism of proteins and, during differentiation of myxamoebae of *Dictyostelium discoideum* A.T.C.C. 24397 containing different amounts of glycogen (Hames, B. D. & Ashworth, J. M.) 301-315
- Ribonucleic acids, ribosomal, topology of the 45S precursor involved in the biosynthesis of, in isolated HeLa-cell nuclei (Hadjiolov, A. A. & Milchev, G. I.) 263-272
- Ribosomal ribonucleic acid, *see* Ribonucleic acid, ribosomal
- Ribosomes, *Escherichia coli*, effects of ricin on the biosynthesis of protein by rat liver mitochondria and nuclei and by (Greco, M., Montanaro, L., Novello, F., Saccone, C., Sperti, S. & Stirpe, F.) 695-697
- Ribosomes, free and membrane-bound, influence of ascorbate on the distribution of, and on the biosynthesis of collagen in healing wounds of scorbutic guinea pigs (Harwood, R., Grant, M. E. & Jackson, D. S.) 641-651
- Ricin, effects of, on the biosynthesis of protein by rat liver mitochondria and nuclei and by ribosomes from *Escherichia coli* (Greco, M., Montanaro, L., Novello, F., Saccone, C., Sperti, S. & Stirpe, F.) 695-697
- Roots, maize, amounts and rates of export of polysaccharides found within the membrane system of the cells of (Bowles, D. J. & Northcote, D. H.) 139-144
- Saccharides, control of the biosynthesis of, during differentiation of myxamoebae of *Dictyostelium discoideum* A.T.C.C. 24397 containing different amounts of glycogen (Hames, B. D. & Ashworth, J. M.) 317-325
- Saccharomyces cerevisiae*, inhibition by lomofungin of the biosynthesis of nucleic acids in (Cannon, M. & Jimenez, A.) 457-463
- Salivary gland, parotid, rat, muscarinic cholinergic stimulation of the breakdown of phosphatidylinositol in fragments of (Jones, L. M. & Michell, R. H.) 583-590
- Scurvy, influence of the administration of ascorbate on ribosomal patterns and the biosynthesis of collagen in healing wounds of guinea pigs with (Harwood, R., Grant, M. E. & Jackson, D. S.) 641-651
- Sea-urchin (*Echinus esculentus*), biosynthesis of sterols in (Smith, A. G. & Goad, L. J.) 421-427
- Seedlings, mung-bean, role of cyclitol glucosides in the biosynthesis of a glucan from uridine diphosphate glucose in (Kemp, J. & Loughman, B. C.) 153-159
- Seeds, pea, development of the activities of ribonuclease and acid phosphatase during germination of (Barker, G. R., Bray, C. M. & Walter, T. J.) 211-219
- Serine, free, specific radioactivities of free glycine and, after the infusion of [U-¹⁴C]glycine as a basis for measuring the rate of biosynthesis of protein in various tissues of the rat *in vivo* (Fern, E. B. & Garlick, P. J.) 413-419
- L-Serine, pathways of gluconeogenesis from, in rat liver during neonatal development (Snell, K.) 433-436
- Serotonin, *see* 5-Hydroxytryptamine
- Skeletal muscle, *see* Muscle, skeletal
- Skin, human, role of, in the photodecomposition of bilirubin (Kapoor, C. L., Krishna Murti, C. R. & Bajpai, P. C.) 567-573
- Slime mould (*Dictyostelium discoideum* A.T.C.C. 24397), control of the biosynthesis of saccharides during differentiation of myxamoebae of, containing different amounts of glycogen (Hames, B. D. & Ashworth, J. M.) 317-325
- Slime mould (*Dictyostelium discoideum* A.T.C.C. 24397), metabolism of macromolecules during differentiation of myxamoebae of, containing different amounts of glycogen (Hames, B. D. & Ashworth, J. M.) 301-315
- Small intestine, *see* Intestine, small
- Sodium α -(*p*-chlorophenoxy)isobutyrate, mode of inhibition by, of energy transduction by rat liver mitochondria (Panini, S. R. & Ramakrishna Kurup, C. K.) 253-261
- Somatotrophin, *see* Growth hormone
- Starvation, effect of, on the activity of phosphodiesterases and on the concentration of adenosine 3':5' cyclic monophosphate in isolated mouse pancreatic islets of Langerhans (Capito, K. & Hedekov, C. J.) 653-658
- Starvation, metabolic effects of the infusion of sodium dichloroacetate in the rat after a 24h period of (Blackshear, P. J., Holloway, P. A. H. & Alberti, K. G. M. M.) 279-286

- Steroidogenesis, effects of stimulators of, on the concentration of adenosine 3':5'-cyclic monophosphate in suspensions of dispersed rat adrenal-gland zona glomerulosa and zona fasciculata cells (Albano, J. D. M., Brown, B. L., Ekins, R. P., Tait, S. A. S. & Tait, J. F.) 391-400
- Steroidogenesis, measurement of the dynamics of stimulation and inhibition of, in isolated rat adrenal-gland cells by using column perfusion (Lowry, P. J. & McMartin, C.) 287-294
- Steroids, androgenic, effect of duration of the period after castration on the response of the rat ventral prostate gland to (Lesser, B. & Bruchofsky, N.) 429-431
- Steroids, androgenic, effects of, on the kinetics of cell proliferation in regenerating rat prostate gland (Lesser, B. & Bruchofsky, N.) 483-489
- Steroids, androgenic, increase in the activity of β -glucuronidase in mouse kidney Golgi apparatus stimulated by, induced by the administration of gonadotrophin (Marsh, C. A., Lin, C.-W. & Fishman, W. H.) 491-497
- Steroids, comparison of the activities of rabbit and mouse liver preparations in the formation of glucosides of (Labow, R. S. & Layne, D. S.) 75-78
- Steroids, glucocorticoid, stimulation by 6-*N*,2'-*O*-dibutyryl adenosine 3':5'-cyclic monophosphate of the activity of phosphoenolpyruvate carboxykinase in isolated perfused rat liver (Huttner, W. B., Krone, W., Seitz, H. J. & Tarnowski, W.) 691-693
- Sterols, biosynthesis of, in the sea-urchin *Echinus esculentus* (Smith, A. G. & Goad, L. J.) 421-427
- Streptozotocin, specifically ^{14}C -labelled, synthesis of, and the tissue distribution and excretion of radioactivity after its administration to the rat (Karunanayake, E. H., Hearse, D. J. & Mellows, G.) 673-683
- Succinyl-coenzyme A, *see* 3-Carboxypropionyl-coenzyme A
- Sulphate, inorganic, effect of the oral administration of, on the metabolism of 4-hydroxyphenethylamine (tyramine) as measured by the excretion of 4-hydroxyphenethylamine *O*-sulphate in human urine (Smith, I. & Mitchell, P. D.) 189-191
- Sulphate, inorganic, transport of inorganic sulphite and, by rat liver mitochondria (Crompton, M., Palmieri, F., Capano, M. & Quagliariello, E.) 127-137
- Sulphite, inorganic, transport of inorganic sulphate and, by rat liver mitochondria (Crompton, M., Palmieri, F., Capano, M. & Quagliariello, E.) 127-137
- Supernatant fraction, *see* Cytosol
- Synaptic membrane, cerebral-cortex, ox, inhibition by free and membrane-bound calcium ions of the intrinsic activity of adenosine 3':5'-cyclic monophosphate-stimulated protein kinase in fragments of (Weller, M. & Rodnight, R.) 605-609
- Synaptosomes, cerebral-cortex, rat, contribution by the intraterminal mitochondria to the biosynthesis of protein by (Hernández, A. G.) 7-17
- Testis, rat, biosynthesis of carnitine and trimethylaminobutyrate in, and other tissues (Cox, R. A. & Hoppel, C. L.) 699-701
- Tetrahymanol, mechanism of the inhibition by cholesterol of the biosynthesis of, in *Tetrahymena pyriformis* (Beedle, A. S., Munday, K. A. & Wilton, D. C.) 57-64
- Tetrahymena pyriformis*, mechanism of the inhibition by cholesterol of the biosynthesis of tetrahymanol in (Beedle, A. S., Munday, K. A. & Wilton, D. C.) 57-64
- Thymidine kinase, changes in the activity of, in rat heart muscle during embryonic and postnatal development (Gillette, P. C. & Claycomb, W. C.) 685-690
- Tolbutamide, mode of action of, in stimulating the release of insulin by perfused rat pancreas (Bowen, V. & Lazarus, N. R.) 385-389
- Trialkyltins, inhibition and uncoupling by diphenyleneiodonium sulphate, phenylmercuric acetate, triphenyltin and, of photophosphorylation in isolated pea-leaf chloroplasts (Watling-Payne, A. S. & Selwyn, M. J.) 65-74
- Tricarboxylic acid cycle, steady-state concentration of coenzyme A, acetyl-coenzyme A and 3-carboxypropionyl-coenzyme A in blowfly flight muscle and isolated mitochondria and the control of oxidations in (Hansford, R. G.) 509-519
- 1,1,1-Trichloro-2,2-bis-(*p*-chlorophenyl)ethane (DDT), role of adenosine 3':5'-cyclic monophosphate in the action of, on carbohydrate metabolism in rat liver and kidney (Kacew, S. & Singhal, R. L.) 145-152
- 2,4,5-Trichlorophenoxyacetate, effects of 2,4-dichlorophenoxyacetate and, on the biosynthesis of cholesterol and fatty acids in rat liver homogenates (Olson, R. J., Trumble, T. E. & Gamble, W.) 445-448
- Trimethylaminobutyrate, biosynthesis of carnitine and, in rat tissues (Cox, R. A. & Hoppel, C. L.) 699-701
- Triphenyltin, inhibition and uncoupling by diphenyleneiodonium sulphate, phenylmercuric acetate, trialkyltins and, of photophosphorylation in isolated pea-leaf chloroplasts (Watling-Payne, A. S. & Selwyn, M. J.) 65-74
- Tritium isotope (^3H), determination of the biosynthesis, recycling and total body pool of glucose in rats and rabbits *in vivo* after the administration of glucose labelled with ^{14}C and (Katz, J., Dunn, A., Chenoweth, M. & Golden, S.) 171-183
- Tyramine (4-hydroxyphenethylamine), effect of the oral administration of inorganic sulphate on the metabolism of, as measured by the excretion of tyramine *O*-sulphate in human urine (Smith, I. & Mitchell, P. D.) 189-191
- Tyrosine, peroxidatic oxidation of, to melanin in the supernatant fraction of crude mouse melanoma homogenates (Patel, R. P., Okun, M. R., Edelstein, L. M. & Cariglia, N.) 441-443
- Uridine diphosphate galactose-*N*-acetyl-D-glucosamine 4- β -galactosyltransferase, characterization of, and other glycosyltransferases in Golgi-apparatus membranes of onion stem (Powell, J. T. & Brew, K.) 203-209
- Uridine diphosphate galactose-*N*-acetyl-D-glucosamine 4- β -galactosyltransferase, involvement of, in the cumulative inhibition by D-galactosamine of the secretion of proteins and glycoproteins by the Golgi apparatus of rat liver (Bauer, C. H., Lukaschek, R. & Reutter, W. G.) 221-230

- Uridine diphosphate glucose, role of cyclitol glucosides in the biosynthesis of a glucan from, in mung-bean seedlings (Kemp, J. & Loughman, B. C.) 153-159
- Urine, effect of the oral administration of inorganic sulphate on the metabolism of 4-hydroxyphenethylamine (tyramine) as measured by the excretion of 4-hydroxyphenethylamine *O*-sulphate in, in man (Smith, I. & Mitchell, P. D.) 189-191
- Vitamin B₁₂, effects of the injection of methionine on the concentrations of liver constituents associated with folate metabolism in sheep deficient in (Smith, R. M., Osborne-White, W. S. & Gawthorne, J. M.) 105-117
- Vitamin B₁₂, effects of the injection of methionine on the transport of methotrexate and the activities of enzymes associated with folate metabolism in liver of sheep deficient in (Gawthorne, J. M. & Smith, R. M.) 119-126
- Vitamin C, influence of the administration of ascorbate on ribosomal patterns and the biosynthesis of collagen in healing wounds of guinea pigs deficient in (Harwood, R., Grant, M. E. & Jackson, D. S.) 641-651
- Vitamin D₃, *see* Cholecalciferol
- Weaning, changes in the activity of the pyruvate dehydrogenase complex in rat mammary gland during pregnancy, lactation and (Coore, H. G. & Field, B.) 87-95
- Wounds, healing, influence of the administration of ascorbate on ribosomal patterns and the biosynthesis of collagen in, of scorbutic guinea pigs (Harwood, R., Grant, M. E. & Jackson, D. S.) 641-651
- Yeast (*Saccharomyces cerevisiae*), inhibition by lomo-fungin of the biosynthesis of nucleic acids in (Cannon, M. & Jimenez, A.) 457-463
- Zea mays*, *see* Maize
- Zinc ions, stabilizing effect of, against spontaneous and progesterone-induced lysis of rat kidney lysosomes (Badenoch-Jones, P. & Baum, H.) 1-6

The BIOCHEMICAL JOURNAL

Cellular Aspects

Volume 142

1974

EDITORIAL BOARD

Chairman

D. G. Walker

Deputy Chairmen

H. B. F. Dixon

K. M. Jones

J. E. Cremer

N. M. Green*

J. W. Bradbeer

R. B. Cain

M. Cannon

R. M. Denton

F. M. Dickinson

R. R. Dils

J. T. Dingle

D. C. Ellwood

P. B. Garland

J. J. Holbrook

M. R. Hollaway

R. C. Hughes

J. D. Judah

A. E. Kellie

U. E. Loening

J. A. Lucy

W. I. P. Mainwaring

R. D. Marshall

P. A. Mayes

J. C. Metcalfe

A. C. T. North*

R. E. Offord

D. V. Parke

A. E. Pegg

R. N. Perham

G. K. Radda

R. Rodnight

A. P. Ryle

D. R. Stanworth

I. O. Walker

D. C. Watts

F. R. Whatley

D. H. Williamson

Editorial Secretary

J. D. Killip

Assistant Editorial Secretary

E. N. Maltby

* Nominated by the British
Biophysical Society

Overseas Advisory Panel

F. J. Ballard (Australia), S. Bergström (Sweden), B. Chance (U.S.A.), J.-P. Changeux (France), P. W. Choppin (U.S.A.), W. H. Elliott (Australia), D. Garfinkel (U.S.A.), F. W. E. Gibson (Australia), A. A. Hadjiolov (Bulgaria), H. G. Hers (Belgium), W. D. Stein (Israel), H. G. Wittmann (Germany), I. G. Wool (U.S.A.)



London: The Biochemical Society © 1974

THE BIOCHEMICAL SOCIETY, 7 WARWICK COURT, LONDON WC1R 5DP

*Printed in Great Britain by William Clowes & Sons Limited,
London, Colchester and Beccles*