The BIOCHEMICAL JOURNAL

15 June 1978 Volume 172, No. 3

EDITORIAL BOARD

Chairman
J. T. Dingle

Deputy Chairman
J. A. Lucy
A. P. Ryle
D. H. Williamson
R. E. Offord

P. M. Bayley*
J. W. Bradbeer
R. C. Bray
D. N. Brindley
H. G. Britton
R. B. Cain
M. Cannon
J. B. Clark
A. J. Cornish-Bowden
D. D. Davies
R. M. Denton
F. M. Dickinson
R. R. Dils
G. J. Dutton
D. C. Ellwood
J. L. Gordon
D. E. Griffiths
L. A. Grivell

M. R. Hollaway
R. C. Hughes
A. J. Kenny
P. Lund
W. I. P. Mainwaring
R. M. Marchbanks
C. I. Pogson
D. Robinson
E. V. Rowsell
D. Schulster
J. E. Scott
S. P. Spragg*
D. R. Stanworth
M. J. A. Tanner

Editorial Office Manager
A. G. J. Evans

*Nomination by the British Biophysical Society

Overseas Advisory Panel

H. Beinert (U.S.A.), C. de Duve (Belgium and U.S.A.), H. F. DeLuca (U.S.A.), W. Fiers (Belgium), O. Hayaishi (Japan), B. Hess (Germany), M. Ya. Karpeisky (U.S.S.R.), D. B. Keech (Australia), T. C. Laurent (Sweden), P. Siekevitz (U.S.A.), G. P. Talwar (India), A. Tissières (Switzerland), O. Wieland (Germany), H. G. Williams-Ashman (U.S.A.)

London: The Biochemical Society
OFFICERS AND COMMITTEE, 1977–78

Chairman of the Committee
R. R. Porter, F.R.S.

Committee
G. B. Ansell
J. R. Bronk

Treasurer
D. F. Elliott
K. Burton, F.R.S.
N. G. Carr
P. H. Clarke, F.R.S.

General Secretary
J. B. Lloyd
J. T. Dingle*
P. F. Fottrell
C. Green

Publications Secretary
R. M. C. Dawson
J. N. Hawthorne
H. K. King

Meetings Secretary
H. F. Bradford
R. J. B. King
J. C. Metcalfe

J. W. Porteous, F.R.S.E.
B. E. Ryman

*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)].
NOTICE FOR CONTRIBUTORS

The Biochemical Journal places emphasis on the prompt publication of both full-length papers (on average about 6 months after receipt) and rapid papers (on average 10–12 weeks after receipt).

For detailed instructions on the preparation of papers contributors (who need not be members of the Biochemical Society) should refer to Policy of the Journal and Instructions to Authors [Biochem. J. (1978) 169, 1–27] (obtainable free on request, in booklet form, from the Executive Secretary, The Biochemical Society, 7 Warwick Court, London WC1R 5DP).

Papers submitted for publication should be addressed to the Editorial Office Manager, Biochemical Journal, 7 Warwick Court, London WC1R 5DP.

Contributors should note that the Biochemical Journal makes no manuscript handling charges, no page charges and no charges for plates. Reprints are available at modest cost at about the same time as publication, and, if an author is a member of The Biochemical Society, 50 reprints are provided free of charge.
NOTICE FOR SUBSCRIBERS

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 1978 eight volumes, each volume being made up of three issues, will be published according to the following schedule:

<table>
<thead>
<tr>
<th>Molecular Aspects</th>
<th>Cellular Aspects</th>
</tr>
</thead>
<tbody>
<tr>
<td>1978</td>
<td>1978</td>
</tr>
<tr>
<td>1 Jan. 169 1</td>
<td>15 Jan. 170 1</td>
</tr>
<tr>
<td>1 Feb. 169 2</td>
<td>15 Feb. 170 2</td>
</tr>
<tr>
<td>1 Mar. 169 3*</td>
<td>15 Mar. 170 3*</td>
</tr>
<tr>
<td>1 Apr. 171 1</td>
<td>15 Apr. 172 1</td>
</tr>
<tr>
<td>1 May 171 2</td>
<td>15 May 172 2</td>
</tr>
<tr>
<td>1 June 171 3*</td>
<td>15 June 172 3*</td>
</tr>
<tr>
<td>1 July 173 1</td>
<td>15 July 174 1</td>
</tr>
<tr>
<td>1 Aug. 173 2</td>
<td>15 Aug. 174 2</td>
</tr>
<tr>
<td>1 Sept. 173 3*</td>
<td>15 Sept. 174 3*</td>
</tr>
<tr>
<td>1 Oct. 175 1</td>
<td>15 Oct. 176 1</td>
</tr>
<tr>
<td>1 Nov. 175 2</td>
<td>15 Nov. 176 2</td>
</tr>
<tr>
<td>1 Dec. 175 3*</td>
<td>15 Dec. 176 3*</td>
</tr>
</tbody>
</table>

*Completes volume, and includes Indexes.

Biochemical Society Transactions. This is a separate publication (see below). Volume 6 will be published in 1978, in six parts.

Subscription Rates to the Biochemical Journal. For non-members of the Biochemical Society the subscription rates for 1978 are shown below.

Subscribers to the Biochemical Journal can subscribe to Biochemical Society Transactions on a joint subscription, saving £15.00 (U.K. and Ireland) or $25.00 (elsewhere). The methods of despatch of both publications are shown below.

Terms are cash with order or against proforma invoice. Orders and subscriptions should be sent to the Biochemical Society Book Depot, P.O. Box 32, Commerce Way, Colchester CO2 2HP, 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, plus such time as would be expected for transit by post.

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 for Transactions, may be obtained on application to The Biochemical Society Book Depot, P.O. Box 32, Commerce Way, Colchester CO2 2HP, Essex.

Microforms. The following versions are available.


Details and prices are available on request 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.

<table>
<thead>
<tr>
<th>U.K. &amp; Ireland only</th>
<th>U.S.A., Canada &amp; Mexico</th>
<th>Japan only</th>
<th>Overseas</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 year (8 volumes)</td>
<td>£170.00</td>
<td>U.S. $320.00</td>
<td>U.S. $330.00</td>
</tr>
<tr>
<td>Per volume</td>
<td>£22.00</td>
<td>U.S. $45.00</td>
<td>U.S. $46.00</td>
</tr>
<tr>
<td>Per part</td>
<td>£8.00</td>
<td>U.S. $16.00</td>
<td>U.S. $16.50</td>
</tr>
</tbody>
</table>

Airfreight to U.S.A., Canada and Mexico. The subscription rates for North America include an element for this service.

Accelerated Surface Post to Japan only. The subscription rates include a 10% surcharge for this service.

(iv)
<table>
<thead>
<tr>
<th>Author</th>
<th>Page</th>
<th>Author</th>
<th>Page</th>
<th>Author</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aberer, W.</td>
<td>353</td>
<td>Gibson, F.</td>
<td>523</td>
<td>Radik, J.</td>
<td>523</td>
</tr>
<tr>
<td>Allsop, J. R.</td>
<td>407</td>
<td>Glimelius, B.</td>
<td>443</td>
<td>Ragan, C. I.</td>
<td>539</td>
</tr>
<tr>
<td>Arabian, A.</td>
<td>417</td>
<td>Glorieux, F. H.</td>
<td>417</td>
<td>Rigoni, F.</td>
<td>371</td>
</tr>
<tr>
<td>Azhar, S.</td>
<td>587</td>
<td>Grunnet, N.</td>
<td>595</td>
<td>Rogers, L. J.</td>
<td>465</td>
</tr>
<tr>
<td>Aziz, S.</td>
<td>577</td>
<td>Halestrap, A. P.</td>
<td>377, 389, 399</td>
<td>Schafer, I. A.</td>
<td>457</td>
</tr>
<tr>
<td>Babcock, D. F.</td>
<td>549</td>
<td>Haslett, B. G.</td>
<td>465</td>
<td>Siess, E. A.</td>
<td>517</td>
</tr>
<tr>
<td>Badawy, A. A.-B.</td>
<td>487</td>
<td>Huber, E.</td>
<td>353</td>
<td>Sims, P. F. G.</td>
<td>503</td>
</tr>
<tr>
<td>Barritt, G. J.</td>
<td>577</td>
<td>Hughes, B. P.</td>
<td>577</td>
<td>Singh, J. P.</td>
<td>549</td>
</tr>
<tr>
<td>Beis, I.</td>
<td>533</td>
<td>Hutson, K. G.</td>
<td>465</td>
<td>Skaper, S. D.</td>
<td>457</td>
</tr>
<tr>
<td>Birdsell, N. J. M.</td>
<td>495</td>
<td></td>
<td></td>
<td>Strange, P. G.</td>
<td>495</td>
</tr>
<tr>
<td>Boulter, D.</td>
<td>465</td>
<td>Johnson, R. N.</td>
<td>557</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Brocks, D. G.</td>
<td>517</td>
<td></td>
<td></td>
<td>Teng, C. S.</td>
<td>361</td>
</tr>
<tr>
<td>Brown, S. B.</td>
<td>569</td>
<td>Katz, J.</td>
<td>595</td>
<td>Teng, C. T.</td>
<td>361</td>
</tr>
<tr>
<td>Burgen, A. S. V.</td>
<td>495</td>
<td>Kelly, P.</td>
<td>569</td>
<td>Thorne, R. F. W.</td>
<td>577</td>
</tr>
<tr>
<td>Burke, J. F.</td>
<td>407</td>
<td>Knowler, J. T.</td>
<td>587</td>
<td>Troxler, R. F.</td>
<td>569</td>
</tr>
<tr>
<td>Butler, P. D.</td>
<td>503</td>
<td>Kostron, H.</td>
<td>353</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cammack, R.</td>
<td>465</td>
<td>Lardy, H. A.</td>
<td>549</td>
<td>Volcani, B. E.</td>
<td>557</td>
</tr>
<tr>
<td>Cox, G. B.</td>
<td>523</td>
<td>Leech, A. R.</td>
<td>533</td>
<td>Wasteson, Å.</td>
<td>443</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Westermark, B.</td>
<td>443</td>
</tr>
<tr>
<td>Deana, R.</td>
<td>371</td>
<td>Malkinson, A. M.</td>
<td>423</td>
<td>Wieland, O. H.</td>
<td>517</td>
</tr>
<tr>
<td>Delvin, E. E.</td>
<td>417</td>
<td>Mawby, W. J.</td>
<td>605</td>
<td>Wild, D. G.</td>
<td>503</td>
</tr>
<tr>
<td>Dils, R.</td>
<td>509</td>
<td>McSwigan, C. E.</td>
<td>423</td>
<td>Wilson, B. M.</td>
<td>509</td>
</tr>
<tr>
<td>Downie, J. A.</td>
<td>523</td>
<td>Menon, K. M. J.</td>
<td>433</td>
<td>Winkler, H.</td>
<td>353</td>
</tr>
<tr>
<td>Falconer, I. R.</td>
<td>509</td>
<td>Nicholls, D. M.</td>
<td>479</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fayle, D. R. H.</td>
<td>523</td>
<td>Norling, B.</td>
<td>443</td>
<td>Young, E. T.</td>
<td>479</td>
</tr>
<tr>
<td>Findlay, J. B. C.</td>
<td>605</td>
<td></td>
<td></td>
<td>Zammit, V. A.</td>
<td>533</td>
</tr>
<tr>
<td>Forsyth, I. A.</td>
<td>509</td>
<td>O’Brien, W. E.</td>
<td>457</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Index of Authors

ABERER, W., KOESTRON, H., HUBER, E. & WINKLER, H. A characterization of the nucleotide uptake by chromaffin granules of bovine adrenal medulla 353–360

ADIGA, P. R. see SURESH, M. R. 185–188

AKRIGG, A. Purification and properties of a manganese-stimulated deoxyribonuclease produced during sporulation of Bacillus subtilis 69–76

AKRIGG, A. & MANDELSTAM, J. Extracellular manganese-stimulated deoxyribonuclease as a marker event in sporulation of Bacillus subtilis 63–67


ARABIAN, A. see DELVIN, E. E. 417–422

AZHAR, S. see MENON, K. M. J. 433–442

AZIZ, G. I. see BEIS, J. F. see BURGEN, A. S.

BROCKS, P. see BUTLER, C. J.

BUTLER, C. J. see CAMMACK, M. J.

CARTIER, R. see CAMMACK, M. J.

CLEMENS, C. see COOKE, S. E.

CHOJNACKI, T. see J. B.

CLARK, J. B. see DENNIS, S. C. 155–162

COOLEY, B. A. see JANSZEN, F. H. A. 147–153

COOPER, C. see LIPKIN, E. W. 205–218; PALMER, J. F. 219–226

CORNELIUS, M. J. see BIRD, I. F. 23–27

CORNELL, N. W. see CROW, K. E. 29–36

COX, G. B. see FAYLE, D. R. H. 523–531

CROW, K. E., CORNELL, N. W. & VEECH, R. L. Lactate-stimulated ethanol oxidation in isolated rat hepatocytes 29–36

CRYER, A. & JONES, H. M. Changes in the lipoprotein lipase (clearing-factor lipase) activity of white adipose tissue during development of the rat 319–325

DANI, H. M. see FIELDER, J. A. 109–114

DAVIES, E., DEMONT, J. E. & VASSART, G. Thyrotropin-stimulated recruitment of free monoribosomes to membrane-bound thyroglobulin-synthesizing polyribosomes 227–231

DE LUCA, L. M. see BERGMAN, A. 123–127


DEBEER, L. J. see THOMAS, J. 177–179

DALLNER, G. see BERGMAN, A. 123–127


DILS, R. see FALCONER, I. R. 509–516

DOWNIE, J. A. see FAYLE, D. R. H. 523–531

DOWSE, C. see FAST, D. K. 97–107

DRIETZ, J.-E. see VAES, G. 261–274

DUMONT, J. E. see DAVIES, E. 227–231

DUŠEK, Z. see HRADEC, J. 1–7, 9–13

EDWARDS, C., SPODE, J. A. & JONES, C. W. The properties of adenosine triphosphatase from exponential and synchronous cultures of Alcaligenes eutrophus H16 253–260

ECKHOUT, Y. see VAES, G. 261–274

ELDER, G. H. & EVANS, J. O. Evidence that the coproporphyrinogen oxidase activity of rat liver is situated in the intermembrane space of mitochondria 345–347

EVANS, J. O. see ELDER, G. H. 345–347

EVERS, C., MURER, H. & KINNE, R. Effect of parathyrin on the transport properties of isolated renal brush-border vesicles 49–56

FABBRO, M. see DEANA, R. 371–375


FARE, R. M. see MEGO, J. L. 233–238

INDEX OF AUTHORS

Vol. 172

FATTERPAKER, P. see PAPPU, A. S. 115–121, 349–352


FELIX, R. see FAST, D. K. 97–107

FIELDER, J. A., DANI, H. M., RIDGE, D. & RABIN, B. R. The binding of monoribosomes, oligoribosomes and polyribosomes to reticular membranes from rat liver 109–114

FINDLAY, J. B. C. see MAVBY, W. J. 605–611

FLEISCH, H. see FAST, D. K. 97–107

FORDWYTH, I. A. see FALCONER, I. R. 509–516

FRANÇOIS–GILLET, C. see VAES, G. 261–274

GACTO, M. Loss of cell-population-density-dependent incorporation of fucose into the lipid fraction of cultured human tumour cells 181–184

GARLICK, P. J. see PAIN, V. M. 129–135

GIBSON, F. see FAYLE, D. R. H. 523–531

GIBSON, W. T., MILSON, D. W., STEVEN, F. S. & LOWE, J. S. Collagenolytic cathepsin activity in rabbit peritoneal polymorphonuclear leucocyte granules 83–89

GLANGEAUD, M.-C. see VANHOVE, A. 239–245

GLIMELIUS, B., NORLING, B., WESTERMARK, B. & WASTEBO, Å. Composition and distribution of glycosaminoglycans in cultures of human normal and malignant glial cells 443–456

GLORIEUX, F. H. see DELVIN, E. E. 417–422

GRUNNET, N. & KATZ, J. Effects of ammonia and norvaline on lactate metabolism by hepatocytes from starved rats. The use of 14C-labelled lactate in studies of hepatic gluconeogenesis 595–603

HAASE, W., SCHÄFER, A., MURER, H. & KINNE, R. Studies on the orientation of brush-border membrane vesicles 57–62


HALESTRAP, A. P. Stimulation of pyruvate transport in metabolizing mitochondria through changes in the transmembrane pH gradient induced by glucagon treatment of rats 389–398

HALESTRAP, A. P. Stimulation of the respiratory chain of rat liver mitochondria between cytochrome c₁ and cytochrome c by glucagon treatment of rats 399–405

HASLETT, B. G. see HUTSON, K. G. 465–477

HAUSER, P. & VAES, G. Degradation of cartilage proteoglycans by a neutral proteinase secreted by rabbit bone-cartilage macrophages in culture 275–284

HEMS, D. A., RODRIGUES, L. M. & WHITTON, P. D. Rapid stimulation by vasopressin, oxytocin and angiotensin II of glycogen degradation in hepatocyte suspensions 311–317

HÖFER, M. & MISRA, P. C. Evidence for a proton/sugar symport in the yeast Rhodotorula gracilis (glutinis) 15–22

HRADEC, J. & DUŠEK, Z. All factors required for protein synthesis are retained on heparin bound to Sepharose 1–7

HRADEC, J., TUHAČKOVÁ, Z. & DUŠEK, Z. Decreased activity of peptide-elongation factors after treatment with cholesterol esterase 9–13

HUBER, E. see ABERER, W. 353–360

HUGHES, B. P. see BARRITT, G. J. 577–585

HUTSON, K. G., ROGERS, L. J., HASLETT, B. G., BOULTER, D. & CAMMACK, R. Comparative studies on two ferredoxins from the cyanobacterium Nostoc strain MAC 465–477

JAMES, M. O. & BEND, J. R. A radiochemical assay for glycine N-acyltransferase activity. Some properties of the enzyme in rat and rabbit 285–291

JAMES, M. O. & BEND, J. R. Perinatal development of, and effect of chemical pretreatment on, glycine N-acyltransferase activities in liver and kidney of rabbit and rat 293–299


JERGL, B. see OHLSSON, R. 189–192

JOHNSON, R. N. & VOLCANI, B. E. The uptake of silicic acid by rat liver mitochondria 557–568

JONES, C. W. see EDWARDS, C. 253–260

JONES, H. M. see CRYER, A. 319–325

JUDAH, J. D. see QUINN, P. S. 301–309

KATZ, J. see GRUNNET, N. 595–603

KELLY, P. see TROXLER, R. F. 569–576

KEYS, A. J. see BIRD, I. F. 23–27

KINNE, R. see EVERS, C. 49–56; HAASE, W. 57–62

KNOWLER, J. T. see AZIZ, S. 587–593

KOSTRON, H. see ABERER, W. 353–360

KREBS, H. A. see MAPES, J. P. 193–203; STUBBS, M. 333–342

LARDY, H. A. see SINGH, J. P. 549–556

LEECH, A. R. see NEWSHOLME, E. A. 533–537

LENAERS-CLAEYS, G. see VAES, G. 261–274

LEROUX, J.-P. see DEMAUGRE, F. 91–96

LI, L. see WHITE, J. O. 37–47

LIPKIN, E. W., COOPER, C. & SHIPLEY, R. A. The contribution of serum triacylglycerol to hepatic triacylglycerol turnover in the starved rat 205–218

LOWE, J. S. see GIBSON, W. T. 83–89

MALKINSON, A. M. & McSWIGAN, C. E. Protein phosphorylation in normal and neoplastic development. Phosphorylation of proteins endogenous to foetal tissues and tumours 423–432

MANDELSTAM, J. see AKRIGG, A. 63–67

MANKOWSKI, L. M. see BERT, J. A. 123–127

MANNÄRTS, G. P. see THOMAS, J. 177–179

MAPES, J. P. & KREBS, H. A. Rate-limiting factors in urate synthesis and gluconeogenesis in avian liver 193–203

MAWBY, W. J. & FINDLAY, J. B. C. Some transport properties of resealed washed human erythrocyte membranes 605–611

1978
INDEX OF AUTHORS

VANHOVE, A., WOLF, C., BRETON, M. & GLANGEAUD, M.-C. Effect of nutrition on subcellular localization of rat fat-cell lipoprotein lipase 239-245
VASSART, G. see DAVIES, E. 227-231
VEECH, R. L. see CROW, K. E. 29-36
VIGNAIS, P. V. see STUBBS, M. 333-342
VOLCANI, B. E. see JOHNSON, R. N. 557-568

WALTER, H. see OHLSSON, R. 189-192
WASTESON, A. see GLIMELIUS, B. 443-456
WEGLICKI, W. B. see RUTH, R. C. 163-173
WENZEL, M. see TAYLOR, A. J. 77-82
WESTERMARK, B. see GLIMELIUS, B. 443-456
WHITE, J. O., THROWER, S. & LIM, L. Intracellular relationships of the oestrogen receptor in the rat uterus and hypothalamus during the oestrous cycle 37-47

WHITTINGHAM, C. P. see BIRD, I. F. 23-27
WHITTON, P. D. see HEMS, D. A. 311-317
WIDNESS, J. A. see McCORMICK, K. L. 327-331
WIELAND, O. H. see SISS, E. A. 517-521
WILD, D. G. see BUTLER, P. D. 503-508
WILSON, B. M. see FALCONER, I. R. 509-516
WINKLER, H. see ABERER, W. 353-360
WOLF, C. see VANHOVE, A. 239-245
WOLFE, R. R. see ALLSOP, J. R. 407-416

YOUNG, E. T. & NICOLLS, D. MeE. Liver enzyme induction by 1,1,1-trichloro-2,2-bis-(p-chlorophenyl)-ethane (DDT) is accompanied by an increase in the specific activity of elongation factor 1 479-486

ZAMMIT, V. A. see NEWSHOLME, E. A. 533-537
Acetoacetate, effects of pyruvate concentration, dichloroacetate and α-cyano-4-hydroxycinnamate on gluconeogenesis, ketogenesis and concentration ratios of 3-hydroxybutyrate and, in isolated rat hepatocytes (Demaugre, F., Leroux, J.-P. & Cartier, P.) 91–96


N-Acetyl-β-D-glucosaminidase, lysosomal, rat, dependency on temperature of the loss of latency of, and p-nitrophenyl phosphatase (Ruth, R. C. & Weglecki, W. B.) 163–173

Acetylruthenocene, identification of a glucuronide as the major metabolite of, in the bile and urine of the rat (Taylor, A. J. & Wenzel, M.) 77–82

Adenine nucleotide translocator, investigation of the possibility that, is rate-limiting for oxidative phosphorylation in isolated rat hepatocytes (Stubbis, M., Vignais, P. V. & Krebs, H. A.) 333–342

Adenine nucleotides, characterization of the uptake of, by ox adrenal-gland-medulla chromaffin granules (Aberer, W., Kostron, H., Huber, E. & Winkler, H.) 353–360

Adenosine 3'-5'-cyclic monophosphate, 6-N,N2'-O-di- butyryl-, effects of administration in vivo of glucagon, insulin and, on the transport and metabolism of inorganic phosphate in isolated rat liver mitochondria (Barritt, G. J., Thorne, R. F. W. & Hughes, B. P.) 577–585

Adenosine 3':5'-cyclic monophosphate-receptor protein, regulation by gonadotropin of the activities of adenosine 3':5'-cyclic monophosphate-dependent protein kinase and, of rat ovarian cells (Menon, K. M. J. & Azhar, S.) 433–442


Adenosine triphosphatase, properties of, from Alcaligenes eutrophus H16 growing in exponential and synchronous cultures (Edwards, C., Spode, J. A. & Jones, C. W.) 457–464

Adipocytes, epididymal, rat, effect of nutrition on the subcellular localization of lipoprotein lipase in (Vanhocke, A., Elf, C., Breton, M. & Glangeaud, M.-C.) 239–245

Adipocytes, epididymal, rat, isolated mechanisms of the ability of insulin to activate the system for the transport of glucose in (Olefsky, J. M.) 137–145

Adipose tissue, epididymal, rat, effect of nutrition on the subcellular localization of lipoprotein lipase in fat-cells of (Vanhocke, A., Wolf, C., Breton, M. & Glangeaud, M.-C.) 239–245

Adipose tissue, white, rat, changes in the activity of lipoprotein lipase in, during postnatal development (Cryer, A. & Jones, H. M.) 319–325

Adrenal-gland medulla, ox, characterization of the uptake of adenosine nucleotides by chromaffin granules from (Aberer, W., Kostron, H., Huber, E. & Winkler, H.) 353–360

Albumin, effect of dietary deficiency of protein on the biosynthesis of, and on the concentration of albumin messenger ribonucleic acid in rat liver (Pain, V. M., Clemens, M. J. & Garlick, P. J.) 129–135

Albumin messenger ribonucleic acid, effect of dietary deficiency of protein on the biosynthesis of albumin and on the concentration of, in rat liver (Pain, V. M., Clemens, M. J. & Garlick, P. J.) 129–135

Albumin, serum, ox, 125I-labelled, energy requirement for the degradation of, in mouse liver and kidney slices (Mego, J. L. & Farb, R. M.) 233–238

Albumin, serum, roles of calcium ion-dependent fusion of Golgi vesicles and of cathepsin B in the conversion of proalbumin into, in rat liver (Quinn, P. S. & Judah, J. D.) 301–309

Alcaligenes eutrophus H16, properties of adenosine triphosphatase from, growing in exponential and synchronous cultures (Edwards, C., Spode, J. A. & Jones, C. W.) 235–260

Amino acid sequences, N-terminal, determination of the redox potentials and, of two ferredoxins from Nostoc strain MAC (Butson, K. G., Rogers, L. J., Haslett, B. G., Boulter, D. & Cammassa, R.) 465–477

Aminoacyl-transfer ribonucleic acid, binding of chloramphenicol and of a fragment of, to ribosomes and to a ribosome precursor from a mutant of Escherichia coli (Butler, P. D., Sims, P. F. G. & Wild, D. G.) 503–508

Ammonia, effect of, on the biosynthesis of purine nucleotides and pyrimidine nucleotides in rat liver and brain in vivo (Skaper, S. D., O'Brien, W. E. & Schafer, I. A.) 457–464

Ammonia, effects of norvaline and, on the metabolism of lactate in hepatocytes isolated from starved rats (Grunnet, N. & Katz, J.) 595–603

Angiotensin II, rapid stimulation by vasopressin, oxytocin and, of the degradation of glycogen in suspensions of isolated rat hepatocytes (Hems, D. A., Rodrigues, L. M. & Whitten, P. D.) 311–317

Arginine kinase, role of creatine kinase and, in muscle of various vertebrate and invertebrate animal species (Newsholme, E. A., Beis, I. & Leech, A. R. & Zummit, V. A.) 533–537

Bacillus subtilis Marburg 168, purification and properties of an extracellular manganese ion-stimulated deoxyribonuclease produced during sporulation of (Akrigg, A.) 69–76

Bacillus subtilis Marburg 168, release of extracellular manganese ion-stimulated deoxyribonuclease as a marker event in the sporulation of (Akrigg, A. & Mandelstam, J.) 63–67

Bile, identification of a glucuronide as the major metabolite of acetylruthenocene in, and urine of the rat (Taylor, A. J. & Wenzel, M.) 77–82

Bile pigments, biosynthesis of, in Cyanidium caldarium (Troxler, R. F., Kelly, P. & Brown, S. B.) 569–576

Biotin, effects of glucagon on gluconeogenesis and ketogenesis in hepatocytes isolated from normal rats and from rats deficient in (Siess, E. A., Brocks, D. G. & Wieland, O. H.) 317–321
INDEX OF SUBJECTS

Blood plasma, dog, reliability of the rates of appearance of glucose in, in vivo calculated from constant infusion of tracer radioactively labelled glucose (Allsop, J. R., Wolfe, R. R. & Burke, J. F.) 407–416

Blood, rat, availability of inorganic sulphate in, for the formation of the sulphate conjugate of harmol in the liver (Mulder, G. J. & Scholtens, E.) 247–251

Blood serum, rat, rate of triacylglycerol during starvation (Lipkin, E. W., Cooper, C. & Shipley, R. A.) 205–218

Blood serum, rat, rate of release of liver triacylglycerol into, during starvation (Palmer, J. F., Cooper, C. & Shipley, R. A.) 219–226

Bone, mouse, composition of cartilage proteoglycans by a neutral proteinase secreted by cultured macrophages from (Hauser, P. & Vaes, G.) 275–284


Brush-border vesicles, rat, degradation of cartilage proteoglycans and of the sulphate conjugate of triacylglycerol of the sulphate conjugate of triacylglycerol (Lipkin, E. W., Cooper, C. & Shipley, R. A.) 407–416

Bone, human, composition of cartilage proteoglycans by a neutral proteinase secreted by cultured macrophages from (Hauser, P. & Vaes, G.) 275–284

Brain, mouse, neonatal and adult, phosphorylation of proteins endogenous to, and other tissues and to various mouse tumours (Malkinson, A. M. & McSwigan, C. E.) 423–432

Brain, rat, effect of ammonium on the biosynthesis of pyrimidine nucleotides in, and liver in vivo (Skaper, S. D., O'Brien, W. E. & Schafer, I. A.) 457–464

Brain, rat, regulation of the metabolism of glutamate by the activity of the tricarboxylic acid cycle in mitochondria from (Dennis, S. C. & Clark, J. B.) 155–162

Brush-border vesicles, kidney and small-intestine, rat, isolated, studies on the orientation of (Haase, W., Schäfer, A., Murer, H. & Kinne, R.) 57–62

Brush-border vesicles, kidney, rat, isolated, effect of parathyrin on the transport of inorganic phosphate by (Evers, C., Murer, H. & Kinne, R.) 49–56

Calcium ions, evidence that increased influx of, is a component of the capacitation of guinea-pig spermatozoa (Singh, J. P., Babcock, D. F. & Lardy, H. A.) 549–556


Carbohydrates, evidence for the symport of protons and, in Rhodotorula gracilis (Höfer, M. & Misra, P. C.) 15–22


Cartilage cells, ear, rabbit, effects of diphosphonates on the growth of and glycosylation by, and other connective-tissue cells in culture (Fast, D. K., Felix, R., Dowse, C., Neuman, W. F. & Fleisch, H.) 97–107

Cartilage, rabbit, degradation of proteoglycans from, by a neutral proteinase secreted by cultured rabbit bone-marrow macrophages (Hauser, P. & Vaes, G.) 275–284


Catecholamine-storage granules, adrenal-gland-medulla, ox, characterization of the uptake of adenine nucleotides by (Aberer, W., Kostron, H., Huber, E. & Winkler, H.) 353–360

Catecholamines, characterization of the uptake of adenine nucleotides and, by ox adrenal-gland-medulla chromaffin granules (Aberer, W., Kostron, H., Huber, E. & Winkler, H.) 353–360

Catepsins B, roles of calcium ion-dependent fusion of Golgi vesicles and of, in the conversion of proalbumin into serum albumin in rat liver (Quinn, P. S. & Judah, J. D.) 301–309

Catepsins, polymorphonuclear-leucocyte-granule, peritoneal, rabbit, collagenolytic activity of (Gibson, W. T., Milsom, D. W., Steven, F. S. & Lowe, J. S.) 83–89

Cell cycle, variation in the activity of adenine triphosphatase during, of Alcaligenes eutrophus H16 growing in synchronous culture (Edward, C., Spode, J. A. & Jones, C. W.) 253–260


Cells, tumour, human, various, loss of cell-population-density-dependent independence of fucose into the glycolipids of, in culture (Gacto, M.) 181–184

Chicken, rate-limiting factors in the biosynthesis of urate and gluconeogenesis in hepatocytes isolated from (Maps, J. P. & Krebs, H. A.) 193–203

Chloramphenicol, binding of, and of a fragment of aminocycl-transfer ribonucleic acid to ribosomes and to a ribosome precursor from a mutant of Escherichia coli (Butler, P. D., Sims, P. F. G. & Wild, D. G.) 503–508

Cholecalciferol 25-hydroxylase, microsomal, liver, rat, kinetics of the reaction catalysed by, from vitamin D-depleted and -repleted animals (Delvin, E. E., Arabian, A. & Glioreux, F. H.) 417–422

Cholesterol esterase, decreased activity of rat liver peptide-elongation factors after treatment with (Hradec, J., Tuháčková, Z. & Dulek, Z.) 9–13

Chondroitin sulphate, distribution of, and other glycosaminoglycans in cultures of normal and malignant human brain glial cells (Glimelius, B., Norling, B., Westermark, B. & Wasteson, Å.) 443–456
INDEX OF SUBJECTS

Chromaffin granules, adrenal-gland-medulla, ox, characterization of the uptake of adenine nucleotides by (Aberer, W., Kostron, H., Huber, E. & Winkler, H.) 353–360
Chromatin, chick-embryo, changes in chemical composition and oestradiol-17β-binding capacity of, during the differentiation of Müllerian ducts (Teng, C. S. & Teng, C. T.) 361–370
Citric acid cycle, see Tricarboxylic acid cycle
Clearing-factor lipase, see Lipoprotein lipase
Coenzyme Q, see Ubiquinone
Collagen, activity of rabbit peritoneal polymorphonuclear-leucocyte-granule cathepsins towards (Gibson, W. T., Milsom, D. W., Steven, F. S. & Lowe, J. S.) 83–89
Collagen, denatured, simultaneous release by cultured mouse bone explants and the parallel activation of precursors of collagenase and of a neutral proteinase that when activated degrades cartilage proteoglycans and (Vaes, G., Eeckhout, Y., Lenaers-Claeys, G., François-Gillet, C. & Druetz, J.-E.) 261–274
Collagenase, complete loss of the heparin-releasable activity of triacylglycerol lipase from rat liver after the administration of (Thomas, J., Debeer, L. J. & Mannaepts, G. P.) 177–179
Coproporphyrinogen oxidase, evidence for the location of, in the intermembrane space of rat liver mitochondria (Elder, G. H. & Evans, J. O.) 345–347
Cotyledons, cucumber, evidence of parallelism between the concentrations of polyamines and nucleic acids during the growth of, induced by cytokinins (Suresh, M. R. & Adiga, P. R.) 185–188
Creatine kinase, role of arginine kinase and, in muscle of vertebrate and invertebrate animal species (Newsholme, E. A., Beis, I., Leech, A. R. & Zammit, V. A.) 533–537
Cucumber (Cucumis sativus) cotyledons, absence of parallelism between the concentrations of polyamines and nucleic acids during the growth of, induced by cytokinins (Suresh, M. R. & Adiga, P. R.) 185–188

Cytokinins, absence of parallelism between the concentrations of polyamines and nucleic acids during the growth of cucumber cotyledons induced by (Suresh, M. R. & Adiga, P. R.) 185–188

DDT, see 1,1,1-Trichloro-2,2-bis-(p-chlorophenyl)ethane
Deoxyribonuclease, manganese ion-stimulated, extracellular, purification and properties of, produced during sporulation of Bacillus subtilis Marburg 168 (Akrigg, A.) 69–76
Deoxyribonuclease, manganese ion-stimulated, extracellular, release of, as a marker event in the sporulation of Bacillus subtilis Marburg 168 (Akrigg, A. & Mandelstam, J.) 63–67
Deoxyribonucleic acid, absence of parallelism between the concentrations of polyamines, ribonucleic acid, and during the growth of cucumber cotyledons induced by cytokinins (Suresh, M. R. & Adiga, P. R.) 185–188
Dermatan sulphate, distribution of, and other glycosaminoglycans in cultures of normal and malignant human brain glial cells (Glimelius, B., Noeling, B., Westermark, B. & Wasteson, Å.) 443–456
Development, perinatal, changes in the activity of glycine N-acyltransferase in rabbit and rat liver and kidney during (James, M. O. & Bend, J. R.) 293–299
Development, postnatal, changes in the activity of lipoprotein lipase in rat white adipose tissue during (Cryer, A. & Jones, H. M.) 319–325
Diabetes, streptozotocin-induced, formation and utilization of 3-hydroxy-3-methylglutarate in rat liver mitochondria during starvation and (Deana, R., Fabbro, M. & Rigoni, F.) 371–375
6-N2’-O-Dibutyryladenosine 3’:5’-cyclic monophosphate, effects of administration in vivo of glucagon, insulin and, on the transport and metabolism of inorganic phosphate in isolated rat liver mitochondria (Barritt, G. J., Thorne, R. F. W. & Hughes, B. P.) 577–585
Dichloroacetate, effects of α-cyano-4-hydroxycinnamate and, and the concentration of pyruvate on gluconeogenesis, ketogenesis and 3-hydroxybutyrate/acetocetate concentration ratios in isolated rat hepatocytes (Demaurge, F., Leroux, J.-P. & Cartier, P.) 91–96
Diet, protein-deficient, effect of, on the biosynthesis of albumin and on the concentration of albumin messenger ribonucleic acid in rat liver (Pain, V. M., Clemens, M. J. & Garlick, P. J.) 129–135
Differential, changes in chemical composition and oestradiol-17β-binding capacity of chromatin during, of chick-embryo Müllerian ducts (Teng, C. S. & Teng, C. T.) 361–370
Diphosphonates, effects of, on the growth of and glycolysis by mammalian connective-tissue cells in culture (Fast, D. K., Felix, R., Dowse, C., Neuman, W. F. & Fleisch, H.) 97–107
Drug-metabolizing enzymes, liver, rat, evidence that the induction by 1,1,1-trichloro-2,2-bis-(p-chlorophenyl)ethane (DDT) of the activities of, is accompanied by an increase in the activity of elongation factor 1 (Young, E. T. & Nicholls, D. McE.) 479–486
Elongation factor 1, evidence that the induction by 1,1,1-trichloro-2,2-bis(p-chlorophenyl)ethane (DDT) of the activities of drug-metabolizing enzymes in rat liver is accompanied by an increase in the activity of (Young, E. T. & Nicholls, D. McE.) 479–486

Endoplasmic reticulum, see Reticulum, endoplasmic

Energy, requirement for, for the degradation of 125I-labelled ox serum albumin in mouse liver and kidney slices (Mego, J. L. & Farb, R. M.) 233–238

Epididymis, rat, effect of nutrition on the subcellular localization of lipoprotein lipase in fat-cells of (Vanhove, A., Wolf, C., Breton, M. & Glangeaud, M.-C.) 239–245

Epididymis, rat, mechanisms of the ability of insulin to activate the system for the transport of glucose in adipocytes isolated from (Olesky, J. M.) 137–145

Erythrocytes, human, properties of the phosphate-transport and glucose-transport systems of resealed washed membranes of (Mawby, W. J. & Findlay, J. B. C.) 605–611

Escherichia coli, binding of chloramphenicol and of a fragment of aminoacyl-transfer ribonucleic acid to ribosomes and to a ribosome precursor from a mutant of (Butler, P. D., Sims, P. F. G. & Wild, D. G.) 503–508

Escherichia coli K12, characterization of the mutant-unc D-gene product in a strain of, as an altered β-subunit of magnesium ion-stimulated adenosine triphosphatase (Fayle, D. R. H., Downie, J. A., Cox, G. B., Gibson, F. & Radik, J.) 523–531

Estradiol, see Oestradiol

Estragons, see Oestrogs

Estrous cycle, see Oestrous cycle

Ethanol, stimulation by lactate of the oxidation of, by isolated rat hepatocytes (Crow, K. E., Cornell, N. W. & Veech, R. L.) 29–36

Fat-cells, epididymal, rat, effect of nutrition on the subcellular localization of lipoprotein lipase in (Vanhove, A., Wolf, C., Breton, M. & Glangeaud, M.-C.) 239–245

Fat-cells, epididymal, rat, isolated, mechanisms of the ability of insulin to activate the system for the transport of glucose in (Olesky, J. M.) 137–145

Fatty acids, effects of low concentrations of ouabain on the induction by prolactin of the biosynthesis of ribonucleic acid, protein and, in rabbit mammary gland explants (Falconer, I. R., Forsyth, I. A., Wilson, B. M. & Dils, R.) 509–516

Ferredoxins, Nostoc strain MAC, two, determination of the redox potentials and N-terminal amino acid sequences of (Hutson, K. G., Rogers, L. J., Haslett, B. G., Boulter, D. & Cammack, R.) 465–477

Fucose, loss of cell-population-density-dependent incorporation of, into the glycolipids of various human tumour cells in culture (Gacto, M.) 181–184

Glia1 cells, brain, human, normal and malignant, composition of and distribution of glycosaminoglycans in cultures of (Glimelius, B., Norling, B., Westermark, B. & Wasteson, Å.) 443–456

Globin, evidence that all factors required for the biosynthesis of, by rabbit reticulocytes are retained on heparin-Sepharose (Hradec, J. & Dušek, Z.) 1–7

Glucagon, effects of administration in vivo of 6-N2'-O-dibutyryladenosine 3':5'-cyclic monophosphate, insulin and, on the transport and metabolism of inorganic phosphate in isolated rat liver mitochondria (Barritt, G. J., Thorne, R. F. W. & Hughes, B. P.) 577–585

Glucagon, effects of, on gluconeogenesis and ketogenesis in hepatocytes isolated from normal and biotin-deficient rats (Siess, E. A., Brocks, D. G. & Wieland, O. H.) 517–521

Glucagon, stimulation of the respiratory chain of rat liver mitochondria between cytochrome e1 and cytochrome c after the administration of (Halestrap, A. P.) 399–405

Glucagon, stimulation through changes in the transmembrane pH gradient of the transport of pyruvate into metabolizing rat liver mitochondria after the administration of (Halestrap, A. P.) 389–398

Glucagon, effects of, on ammonia and norvaline on the metabolism of lactate and, in hepatocytes isolated from starved rats (Grunnet, N. & Katz, J.) 595–603

Glucagon, effects of glucagon on ketogenesis and, in hepatocytes isolated from normal and biotin-deficient rats (Siess, E. A., Brocks, D. G. & Wieland, O. H.) 517–521

Glucagon, effects of pyruvate concentration, dichloroacetate and α-cyano-4-hydroxycinnamate on 3-hydroxybutyrate/acetocacetate concentration ratios, ketogenesis and, in isolated rat hepatocytes (Demaugre, P., Leroux, J.-P. & Cartier, P.) 91–96

Glucagon, rate-limiting factors in the biosynthesis of urate and, in isolated chicken hepatocytes (Demaugre, P., Leroux, J.-P. & Cartier, P.) 91–96

Glucosamine, incorporation of inorganic sulphate and, into glycosaminoglycans in cultures of normal and malignant human brain glial cells (Glimelius, B., Norling, B., Westermark, B. & Wasteson, Å.) 443–456

Glucose, effects of attractylosides on the biosynthesis of urea and, in isolated rat hepatocytes (Stubbbs, M., Vignais, P. V. & Krebs, H. A.) 333–342


Glucose, effects of glucagon on the formation of ketone bodies and, in hepatocytes isolated from normal and biotin-deficient rats (Siess, E. A., Brocks, D. G. & Wieland, O. H.) 517–521

Glucose, mechanisms of the ability of insulin to activate the system for the transport of, in isolated rat epididymal adipocytes (Olesky, J. M.) 137–145

Glucose, rate-limiting factors in the biosynthesis of urate and, in isolated chicken hepatocytes (Mapes, J. P. & Krebs, H. A.) 193–203

Glucose, reliability of the rates of appearance of, in dog plasma in vivo calculated from constant infusion of tracer radioactively labelled glucose (Allsop, J. R., Wolfe, R. R. & Burke, J. F.) 407–416

Glucose-transport system, properties of the phosphate-transport system and, of resealed washed human erythrocyte membranes (Mawby, W. J. & Findlay, J. B. C.) 605–611

Glucuronide, identification of, as the major metabolite of acetylthiophene in the bile and urine of the rat (Taylor, A. J. & Wenzel, M.) 77–82

1978
INDEX OF SUBJECTS

Glutamate, regulation of the metabolism of, by the activity of the tricarboxylic acid cycle in rat brain mitochondria (Dennis, S. C. & Clark, J. B.) 155–162

Glycine N-acyltransferase, perinatal development of and effect of chemical pretreatment on the activity of, in rabbit and rat liver and kidney (James, M. O. & Bend, J. R.) 293–299

Glycine N-acyltransferase, radiochemical method for assay of the activity of, and properties of the enzyme in rabbit and rat liver and kidney (James, M. O. & Bend, J. R.) 285–291

Glycogen, rapid stimulation by vasopressin, oxytocin and angiotensin II of the degradation of, in suspensions of isolated rat hepatocytes (Hems, D. A., Rodrigues, L. M. & Whitton, P. D.) 311–317

Glycolipids, loss of cell-population-density-dependent incorporation of fucose into, of various human tumour cells in culture (Gacto, M.) 181–184


Glycosaminoglycans, composition and distribution of, in cultures of normal and malignant human brain glial cells (Glimelius, B., Norling, B., Westermark, B. & Wasteson, Å.) 443–456

Glycosyl groups, transfer of, from nucleotide sugars to C65 and C65 polypropenyl phosphates and retinyl phosphate by rat liver microsomal fractions and Golgi-apparatus membranes (Bergman, A., Mankowski, T., Chojnacki, T., De Luca, L. M., Peterson, E. & Dallner, G.) 123–127

Golgi apparatus, liver, rat, transfer of glycosyl groups from nucleotide sugars to C65 and C65 polypropenyl phosphates and retinyl phosphate by membranes of, and microsomal fractions (Bergman, A., Mankowski, T., Chojnacki, T., De Luca, L. M., Peterson, E. & Dallner, G.) 123–127

Golgi vesicles, roles of cathepsin B and of calcium ion-dependent fusion of, in the conversion of proalbumin into serum albumin in rat liver (Quinn, P. S. & Judah, J. D.) 301–309

Gonadotropin, regulation by, of the activities of adenosine 3′:5′-cyclic monophosphate-dependent protein kinase and adenosine 3′:5′-cyclic monophosphate-receptor protein of rat ovarian cells (Menon, K. M. J. & Azhar, S.) 433–442


Haem, free, regulatory, effect of early depletion of haem by clinical and experimental exacerbators of porphyria on the concentration of, and the activity of tryptophan pyrrolase in rat liver (Badday, A. A.-B.) 487–494

Harmol, availability of inorganic sulphate in blood for the formation of the sulphate conjugate of, in rat liver (Mulder, G. J. & Schootens, E.) 247–251

Heart, mouse, neonatal and adult, phosphorylation of proteins endogenous to, and other tissues and to various mouse tumours (Malkinson, A. M. & McSwigan, C. E.) 423–432

Heart, ox, role of phospholipids in the reduction of ubiquinone analogues by mitochondrial reduced nicotinamide–adenine dinucleotide dehydrogenase from (Ragan, C. I.) 539–547

Hen, see Chicken

Heparin, complete loss of the activity of triacylglycerol lipase releasable by, from rat liver after the administration of collagenase (Thomas, J., Debeer, L. J. & Mannaerts, G. P.) 177–179

Heparin–Sepharose, evidence that all factors required for the biosynthesis of protein by rabbit reticulocytes are retained on (Hradec, J. & Dušek, Z.) 1–7

Hepatocytes, chicken, isolated, rate-limiting factors in the biosynthesis of urate and glucosegenesis in (Mapes, J. P. & Krebs, H. A.) 193–203

Hepatocytes, rat, isolated, effects of ammonia and norvaline on the metabolism of lactate in, from starved animals (Grumet, N. & Katz, J.) 595–603

Hepatocytes, rat, isolated, effects of glucagon on glucosegenesis and ketogenesis in, from normal and biotin-deficient animals (Siess, E. A., Brooks, D. G. & Wieland, O. H.) 517–521

Hepatocytes, rat, isolated, effects of pyruvate concentration, dichloroacetate and α-cyano-4-hydroxycinnamate on glucosegenesis, ketogenesis and 3-hydroxybutyrate/acetocetate concentration ratios in (Demaugre, F., Leroux, J.-P. & Cartier, P.) 91–96

Hepatocytes, rat, isolated, investigation of the possibility that the adenine nucleotide translocator is rate-limiting for oxidative phosphorylation in (Stubbs, M., Vignais, P. V. & Krebs, H. A.) 333–342

Hepatocytes, rat, isolated, rapid stimulation by vasopressin, oxytocin and angiotensin II of the degradation of glycogen in suspensions of (Hems, D. A., Rodrigues, L. M. & Whitton, P. D.) 311–317

Hepatocytes, rat, isolated, stimulation by lactate of the oxidation of ethanol by (Crow, K. E., Cornell, N. W. & Veech, R. L.) 29–36

Hyaluronic acid, distribution of, and other glycosaminoglycans in cultures of normal and malignant human brain glial cells (Glimelius, B., Norling, B., Westermark, B. & Wasteson, Å.) 443–456

Hydrogen ions, evidence for the symport of sugars and, in Rhodotorula gracilis (Höfer, M. & Misra, P. C.) 15–22

3-Hydroxybutyrate, effects of pyruvate concentration, dichloroacetate and α-cyano-4-hydroxycinnamate on glucosegenesis, ketogenesis and concentration ratios of acetocetate and, in isolated rat hepatocytes (Demaugre, F., Leroux, J.-P. & Cartier, P.) 91–96

3-Hydroxy-3-methylglutarate, formation and utilization of, in liver mitochondria from starved and streptozotocin-diabetic rats (Deana, R., Fabbro, M. & Rigioni, F.) 371–375

Hyperammonaemia, effect of, on the biosynthesis of purine nucleotides and pyrimidine nucleotides in rat liver and brain in vivo (Skaper, S. D., O'Brien, W. E. & Schaffer, I. A.) 457–464


Vol. 172
Hypothalamus, rat, intracellular relationships of the oestrogen-receptor proteins in, and uterus during the oestrous cycle (White, J. O., Thrower, S. & Lim, L.) 37–47

Inorganic phosphate, see Phosphate, inorganic
Inorganic sulphate, see Sulphate, inorganic

Insulin, effects of administration in vivo of 6-N,N′,2′-O-dibutyryladenosine 3′:5′-cyclic monophosphate, glucagon and, on the transport and metabolism of inorganic phosphate in isolated rat liver mitochondria (Barritt, G. J., Thorne, R. F. W. & Hughes, B. P.) 577–585
Insulin, mechanisms of the ability of, to activate the system for the transport of glucose in isolated rat epididymal adipocytes (Olefsky, J. M.) 137–145
Insulin, small, rapid, stimulation of the orientation of brush-border vesicles isolated from, and kidney (Haase, W., Schäfer, A., Murer, H. & Kinne, R.) 57–62

Ketogenesis, effects of glucagon on gluconeogenesis and, in hepatocytes isolated from normal and biotin-deficient rats (Siess, E. A., Brooks, D. G. & Wieland, O. H.) 517–521

Ketogenesis, effects of pyruvate concentration, dichloroacetate and α-cyano-4-hydroxycinnamate on 3-hydroxybutyrate/acetocacetate concentration ratios, gluconeogenesis and, in isolated rat hepatocytes (Demaugre, F., Leroux, J.-P. & Cartier, P.) 91–96
Ketone bodies, effects of glucagon on the formation of glucose and, in hepatocytes isolated from normal and biotin-deficient rats (Siess, E. A., Brooks, D. G. & Wieland, O. H.) 517–521
Ketone bodies, exchange properties, pH-dependence and mechanism of the carrier of the transport of pyruvate and, across rat liver mitochondrial membrane (Halestrap, A. P.) 377–387

Kidney, mouse, energy requirement for the degradation of 123I-labelled ox serum albumin in slices of, and liver (Mego, J. L. & Farb, R. M.) 233–238
Kidney, mouse, neonatal and adult, phosphorylation of proteins endogenous to, and other tissues and to various mouse tumours (Malkinson, A. M. & McSwigan, C. E.) 423–432
Kidney, rabbit and rat, perinatal development of and effect of chemical pretreatment on the activity of glycine N-acetyltransferase in, and liver (James, M. O. & Bend, J. R.) 293–299
Kidney, rabbit and rat, radiochemical method for assay of the activity of glycine N-acetyltransferase and properties of the enzyme in, and liver (James, M. O. & Bend, J. R.) 285–291
Kidney, rat, effect of parathyrin on the transport of inorganic phosphate by brush-border vesicles isolated from (Evers, C., Murer, H. & Kinne, R.) 49–56
Kidney, rat, studies on the orientation of brush-border vesicles isolated from, and small intestine (Haase, W., Schäfer, A., Murer, H. & Kinne, R.) 57–62

Lactate, effects of ammonia and norvaline on the metabolism of, in hepatocytes isolated from starved rats (Grunner, N. & Katz, J.) 595–603
Lactate, stimulation by, of the oxidation of ethanol by isolated rat hepatocytes (Crow, K. E., Cornell, N. W. & Veech, R. L.) 29–36
Leucocytes, polymorphonuclear, peritoneal, rabbit, collagenolytic activity of cathepsins of granules from (Gibson, W. T., Miles, D. W., Steven, F. S. & Lowe, J. S.) 83–89
Lipids, loss of cell-population-density-dependent incorporation of fucose into, of various human tumour cells in culture (Gacto, M.) 181–184
Lipogenesis, effects of chronic hyperinsulinaemia on the activities of enzymes involved in the metabolism of carbohydrate and, in young rat liver 327–331
Lipoprotein lipase, changes in the activity of, in rat white adipose tissue during postnatal development (Cryer, A. & Jones, H. M.) 319–325
Lipoprotein lipase, effect of nutrition on the subcellular localization of; in rat epididymal fat-cells (Vanhove, A., Wolf, C., Breton, M. & Glaingaud, M.-C.) 239–245
Liver cells, chicken, isolated, rate-limiting factors in the biosynthesis of urate and gluconeogenesis in (Mapes, J. P. & Krebs, H. A.) 193–203
Liver cells, rat, isolated, effects of ammonia and norvaline on the metabolism of lactate in, from starved animals (Grunner, N. & Katz, J.) 595–603
Liver cells, rat, isolated, effects of glucagon on gluconeogenesis and ketogenesis in, from normal and biotin-deficient animals (Siess, E. A., Brooks, D. G. & Wieland, O. H.) 517–521
Liver cells, rat, isolated, effects of pyruvate concentration, dichloroacetate and α-cyano-4-hydroxycinnamate on gluconeogenesis, ketogenesis and 3-hydroxybutyrate/acetocacetate concentration ratios in (Demaugre, F., Leroux, J.-P. & Cartier, P.) 91–96
Liver cells, rat, isolated, investigation of the possibility that the adenosine nucleotide translocator is rate-limiting for oxidative phosphorylation in (Stubbs, M., Vignais, P. V. & Krebs, H. A.) 333–342
Liver cells, rat, isolated, rapid stimulation by vasopressin, oxytocin and angiotensin II of the degradation of glycogen in suspensions of (Hems, D. A., Rodrigues, L. M. & Whitton, P. D.) 311–317
INDEX OF SUBJECTS

Liver cells, rat, isolated, stimulation by lactate of the oxidation of ethanol by (Crow, K. E., Cornell, N. W. & Veec, R. L.) 29-36

Liver, mouse, energy requirement for the degradation of $^{125}$I-labelled ox serum albumin in slices of, and kidney (Mego, J. L. & Farb, R. M.) 233-238

Liver, mouse, neonatal and adult, phosphorylation of proteins endogenous to, and other tissues and to various mouse tumours (Malkinson, A. M. & McSwigan, C. E.) 423-432

Liver, rabbit and rat, perinatal development of and effect of chemical pretreatment on the activity of glycine N-acetyltransferase in, and kidney (James, M. O. & Bend, J. R.) 293-299

Liver, rabbit and rat, radiochemical method for assay of the activity of glycine N-acetyltransferase and properties of the enzyme in, and kidney (James, M. O. & Bend, J. R.) 285-291

Liver, rat, activity of mitochondrial phospholipase $A_2$ of, during vitamin E deficiency (Pappu, A. S., Fatterpaker, P. & Sreenivasan, A.) 349-352

Liver, rat, availability of inorganic sulphate in blood for the formation of the sulphate conjugate of harmol in (Mulder, G. J. & Scholtens, E.) 247-251

Liver, rat, binding of monoribosomes, oligoribosomes and polyribosomes to endoplasmic-reticulum membranes from (Fielder, J. A., Danl, H. M., Ridge, R. & Rabin, B. R.) 109-114

Liver, rat, complete loss of the hepatic-releasable activity of triacylglycerol lipase from, after the administration of collagenase (Thomas, J., Debeer, L. J. & Mannaerts, G. P.) 177-179

Liver, rat, decreased activity of peptide-elongation factors from, after treatment with cholesterol esterase (Hradec, J., Tuháčková, Z. & Dušek, Z.) 9-13

Liver, rat, dependence on temperature of the loss of latency of lysosomal enzymes from (Ruth, R. C. & Weglicki, W. B.) 163-173

Liver, rat, effect of ammonia on the biosynthesis of purine nucleotides and pyrimidine nucleotides in, and brain in vivo (Skaper, S. D., O'Brien, W. E. & Schafer, I. A.) 457-464

Liver, rat, effect of dietary deficiency of protein on the biosynthesis of albumin and on the concentration of albumin messenger ribonucleic acid in (Pain, V. M., Clemens, M. J. & Garlick, P. J.) 129-135

Liver, rat, effect of early depletion of haem by clinical and experimental exacerbators of porphyria on the concentration of regulatory free haem and the activity of tryptophan pyrrolase in (Badawy, A. A.-B.) 487-494

Liver, rat, effects of administration in vivo of glucagon, insulin and 6-N2-O-dibutyryladenosine 3':5'-cyclic monophosphate on the transport and metabolism of inorganic phosphate in mitochondria isolated from (Barritt, G. J., Thorne, R. F. W. & Hughes, B. P.) 577-585

Liver, rat, evidence for the location of coproporphyrinogen oxidase in the intermembrane space of mitochondria from (Elder, G. H. & Evans, J. O.) 345-347

Liver, rat, evidence that the induction by 1,1,1-trichloro-2,2-bis-(p-chlorophenyl)ethane (DDT) of the activities of drug-metabolizing enzymes of, is accompanied by an increase in the activity of elongation factor 1 (Young, E. T. & Nicholls, D. McE.) 479-486

Liver, rat, exchange properties, pH-dependence and mechanism of the carrier of the transport of pyruvate and ketone bodies across the membrane of mitochondria from (Halestrap, A. P.) 377-387

Liver, rat, formation and utilization of 3-hydroxy-3-methylglutarate in mitochondria from, of starved and streptozotocin-diabetic animals (Deana, R., Fabbro, M. & Rigoni, F.) 371-375

Liver, rat, fractionation of microsomal membranes from, on the basis of their surface properties (Ohlsson, R., Jergil, B. & Walter, H.) 189-192

Liver, rat, kinetics of the reaction catalysed by microsomal cholecalciferol 25-hydroxylase from, of vitamin D-depleted and -repleted animals (Delvin, E. E., Arabain, A. & Glorieux, F. H.) 417-422

Liver, rat, rate of release of triacylglycerol from, into serum during starvation (Palmer, J. F., Cooper, C. & Shipley, R. A.) 219-226

Liver, rat, roles of calcium ion-dependent fusion of Golgi vesicles and of cathepsin B in the conversion of proalbumin into serum albumin in (Quinn, P. S. & Judah, J. D.) 301-309

Liver, rat, stimulation of the respiratory chain of mitochondria from, between cytochrome c and cytochrome c after the administration of glucagon (Halestrap, A. P.) 399-405

Liver, rat, stimulation through changes in the transmembrane pH gradient of the transport of pyruvate into metabolizing mitochondria from, after the administration of glucagon (Halestrap, A. P.) 389-398

Liver, rat, transfer of glycosyl groups from nucleotide sugars to C$_{55}$ and C$_{55}$ polypropyl phosphates and retinyl phosphate by microsomal fractions and Golgi-apparatus membranes from (Bergman, A., Mankowski, T., Chojnacki, T., De Luca, L. M., Peterson, E. & Dallner, G.) 123-127

Liver, rat, uptake of silicic acid by mitochondria from (Johnson, R. N. & Volcani, B. E.) 557-568


Lung, mouse, neonatal and adult, phosphorylation of proteins endogenous to, and other tissues and to various mouse tumours (Malkinson, A. M. & McSwigan, C. E.) 423-432

Luteinizing hormone, see Lutropin


Lysosomes, liver, rat, dependence on temperature of the loss of latency of enzymes of (Ruth, R. C. & Weglicki, W. B.) 163-173

Macrophages, bone-marrow, rabbit, cultured, degradation of cartilage proteoglycans by a neutral proteinase secreted by (Hauser, P. & Vaes, G.) 275-284

Mammary gland, rabbit, inhibition by low concentrations of ouabain of the induction by prolactin of lactogenesis in explants of (Falconer, I. R., Forsyth, I. A., Wilson, B. M. & Dils, R.) 509-516
INDEX OF SUBJECTS

Membrane, brush-border, kidney, rat, isolated, effect of parathyrin on the transport of inorganic phosphate by (Evers, C., Murer, H. & Kinne, R.) 49–56

Membrane, mitochondrial, liver, rat, exchange properties, pH-dependence and mechanism of the carrier of the transport of pyruvate and ketone bodies across (Halestrap, A. P.) 377–387

Membrane, plasma, neuroblastoma-cell,Mitochondria, heart, ox, role of phospholipids in the reduction of ubiquinone analogues by reduced nicotinamide-adenine dinucleotide dehydrogenase from (Ragan, C. I.) 539–547

Mitochondria, liver, rat, activity of phospholipase A2 of, during vitamin E deficiency (Pappu, A. S., Fatterpaker, P. & Sreenivasan, A.) 349–352

Mitochondria, liver, rat, evidence for the location of coproporphyrinogen oxidase in the intermembrane space of (Elder, G. H. & Evans, J. O.) 345–347

Mitochondria, liver, rat, exchange properties, pH-dependence and mechanism of the carrier of the transport of pyruvate and ketone bodies across the membrane of (Halestrap, A. P.) 377–387

Mitochondria, liver, rat, formation and utilization of 3-hydroxy-3-methylglutinate in, from starved and streptozotocin-diabetic animals (Deana, R., Fabbro, M. & Rigoni, F.) 371–375

Mitochondria, liver, rat, isolated, effects of administration in vivo of glucagon, insulin and 6-N,2′-O-dibutyryladenosine 3′:5′-cyclic monophosphate on the transport and metabolism of inorganic phosphate in (Barrit, G. J., Thorne, R. F. W. & Hughes, B. P.) 577–585

Mitochondria, liver, rat, metabolizing, stimulation through changes in the transmembrane pH gradient of the transport of pyruvate into, after the administration of glucagon (Halestrap, A. P.) 389–398

Mitochondria, liver, rat, stimulation of the respiratory chain of, between cytochrome c1 and cytochrome c after the administration of glugacon (Halestrap, A. P.) 399–405

Mitochondria, liver, rat, uptake of silicic acid by (Johnson, R. N. & Volcani, B. E.) 557–568

Monoribosomes, see Ribosomes

Müllerian ducts, chick-embryo, changes in chemical composition and oestradiol-17β-binding capacity of chromatin during the differentiation of (Teng, C. S. & Teng, C. T.) 361–370

Muscle, role of creatine kinase and arginine kinase in, of various vertebrate and invertebrate animal species (Newsholme, E. A., Beis, I., Leech, A. R. & Zammit, V. A.) 533–537


Neutral proteinase, see Proteinase, neutral

Nicotinamide-adenine dinucleotide (reduced) dehydrogenase, mitochondrial, heart, ox, role of phospholipids in the reduction of ubiquinone analogues by (Ragan, C. I.) 539–547

p-Hydroxyphenylphosphatase, lysosomal, liver, rat, dependence on temperature of the loss of latency of, and N-acetyl-β-glucosaminidase (Ruth, R. C. & Weglicki, W. B.) 163–173

Norvaline, effects of ammonia and, on the metabolism of lactate in hepatocytes isolated from starved rats (Grunnet, N. & Katz, J.) 595–603

Nostoc strain MAC, determination of the redox potentials and N-terminal amino acid sequences of two ferredoxins from (Hutson, K. G., Rogers, L. J., Haslett, B. G., Boulter, D. & Cammack, R.) 465–477

1978
INDEX OF SUBJECTS

625

Nuclear ribonucleic acid, see Ribonucleic acid, nuclear
Nucleotide sugars, transfer of glycosyl groups from,
to C85 and C85 polypropenyl phosphates and retinyl phosphatе by rat liver microsomal subfractions and Golgi-apparatus membranes (Bergman, A., Mankowski, T., Chojnacki, T., De Luca, L. M., Peterson, E. & Dallner, G.) 123–127
Nucleotides, purine and pyrimidine, effect of ammonia
on the biosynthesis of, in rat liver and brain in vivo (Skaper, S. D., O’Brien, W. E. & Schafer, I. A.) 457–464
Oestradiol-17β, changes in the binding capacity for, and
chemical composition of chromatин during the
differentiation of chick-embryo Müllerian ducts (Teng,
C. S. & Teng, C. T.) 361–370
Oestradiol-17β, effect of, on the biosynthesis of hetero-
geneous nuclear ribonucleic acid in rat uterus (Aziz,
S. & Knowler, J. T.) 587–593
Oestradiol-17β-receptor proteins, uterus and hypo-
thalamus, rat, intracellular relationships of, during the
oestrous cycle (White, J. O., Thrower, S. & Lim, L.)
37–47
Oestrogen-receptor proteins, uterus and hypothalamus,
rat, intracellular relationships of, during the oestrous
cycle (White, J. O., Thrower, S. & Lim, L.) 37–47
Oestrous cycle, intracellular relationships of rat uterus
and hypothalamus oestrogen-receptor proteins during
(White, J. O., Thrower, S. & Lim, L.) 37–47
Oligoribosomes, binding of monoribosomes, polyribi-
osomes and, to rat liver endoplasmic-reticulum mem-
branes (Fielder, J. A., Dani, H. M., Ridge, D. &
Rabin, B. R.) 109–114
Ouabain, inhibition by low concentrations of, on the
induction by prolactin of lactogenesis in rabbit
mammary-gland explants (Falconer, I. R., Forsyth,
I. A., Wilson, B. M. & Dils, R.) 509–516
Ovarian cells, rat, regulation by gonadotropin of the
activities of adenose 3':5'-cyclic monophosphate-
dependent protein kinase and adenosine 3':5'-cyclic
monophosphate-receptor protein of (Menon, K. M. J.
& Azhar, S.) 433–442
Oxidative phosphorylation, see Phosphorylation, oxida-
tive
3-Oxobutyrate, see Acetoacetate
Oxytocin, rapid stimulation by vasopressin, angiotensin II
and, of the degradation of glycogen in suspensions of
isolated rat hepatocytes (Hems, D. A., Rodrigues,
L. M. & Whitton, P. D.) 311–317
Parathyrin, effect of, on the transport of inorganic
phosphate by isolated rat kidney brush-border vesicles
(Evers, C., Murer, H. & Kinne, R.) 49–56
Parathyroid hormone, see Parathyrin
Pea (Pisum sativum) leaves, intramolecular labelling of
succrose biosynthesized from [14C]carbon dioxide or
[3-14C]serine by wheat (Triticum aestivum) leaves and
(Bird, I. F., Cornelius, M. J., Keys, A. J. & Whittingham,
C. P.) 23–27
Peptide-elongation factors, liver, rat, decreased activity
of, after treatment with cholesterol esterase (Hradec,
J., Tuháčková, Z. & Dušek, Z.) 9–13
pH dependence on, and other properties of the transport
of pyruvate and ketone bodies across rat liver
mitochondrial membrane (Halestrap, A. P.) 377–387

pH gradient, transmembrane, stimulation through
changes in, of the transport of pyruvate into meta-
bolizing rat liver mitochondria after the administration
of glucagon (Halestrap, A. P.) 389–398
Phosphagen kinases, role of, in muscle of various
vertebrate and invertebrate animal species (Newsholme,
Phosphate, inorganic, effect of parathyrin on the transport
of, by isolated rat kidney brush-border vesicles (Evers,
C., Murer, H. & Kinne, R.) 49–56
Phosphatase, inorganic, effects of administration in vivo
of glucagon, insulin and 6-N-2-O-dibutyryladenosine
3':5'-cyclic monophosphate on the transport and
metabolism of, in isolated rat liver mitochondria
(Barritt, G. J., Thorne, R. F. W. & Hughes, B. P.)
577–585
Phosphate-transport system, properties of the glucose-
transport system and, of resealed washed human
erthrocyte membranes (Mawby, W. J. & Findlay,
J. B. C.) 605–611
Phospholipase A2, activity of, of rat liver mitochondria
during vitamin E deficiency (Pappu, A. S., Fatterpaker,
P. & Sreenivasa, A.) 349–352
Phospholipids, role of, in the reduction of ubiquinone
analogues by ox heart mitochondrial reduced nicotin-
amide-adenine dinucleotide dehydrogenase (Ragan,
C. I.) 539–547
Phosphorylation, oxidative, investigation of the possi-
bility that the adenine nucleotide translocator is rate-
limiting for, in isolated rat hepatocytes (Stubbs, M.,
Vignais, P. V. & Krebs, H. A.) 333–342
Phycocyanobilin, biosynthesis of, in Cyanidium caldarium
(Troxler, R. F., Kelly, F. & Brown, S. B.) 569–576
Pisum sativum, see Pea
Plasma, dog, reliability of the rates of appearance of
glucose in, in vivo calculated from constant infusion of
tracer radioactively labelled glucose (Allsop, J. R.
Plasma membrane, see Membrane, plasma
Plasma, rat, contribution of triacylglycerol of, to liver
triacylglycerol during starvation (Lipkin, E. W.,
Cooper, C. & Shipley, R. A.) 205–218
Plasma, rat, rate of release of liver triacylglycerol into,
during starvation (Palmer, J. F., Cooper, C. &
Shipley, R. A.) 219–226
Polyamines, absence of parallelism between the con-
centrations of, and nucleic acids during the growth of
cucumber cotyledons induced by cytokinins (Suresh,
M. R. & Adiga, P. R.) 185–188
Polypropenyl phosphates, C85 and C85, transfer of
glycosyl groups of nucleotide sugars to retinyl
phosphate and, by rat liver microsomal subfractions
and Golgi-apparatus membranes (Bergman, A.,
Mankowski, T., Chojnacki, T., De Luca, L. M.,
Peterson, E. & Dallner, G.) 123–127
Polyribosomes, binding of monoribosomes, oligoribo-
osomes and, to rat liver endoplasmic-reticulum mem-
branes (Fielder, J. A., Dani, H. M., Ridge, D. &
Rabin, B. R.) 109–114
Polyribosomes, thyroglobulin-synthesizing, membrane-
bound, thyroid-gland, ox and dog, thyrotropin-
stimulated recruitment of free ribosomes on to
(Davies, E., Dumont, J. E. & Vassart, G.) 227–231

Vol. 172
INDEX OF SUBJECTS

Polysomes, see Polyribosomes
Porphyria, effect of early depletion of haem by clinical and experimental exacerbators of, on the concentration of regulatory free haem and the activity of tryptophan pyrrolase in rat liver (Badawy, A. A. B.) 487–494
Proalbumin, roles of calcium ion-dependent fusion of Golgi vesicles and of cathepsin B in the conversion of, into serum albumin in rat liver (Quinn, P. S. & Judah, J. D.) 301–309
Protease, see Proteinase
Protein, acetylcholine-receptor, muscarinic, plasma-membrane, neuroblastoma-cell, NIE-115, mouse, ligand-binding properties of (Strange, P. G., Birdsall, N. J. M. & Burgen, A. S. V.) 495–501
Protein, adenosine 3':5'-cyclic monophosphate-receptor, regulation by gonadotropin of the activities of adenosine 3':5'-cyclic monophosphate-dependent protein kinase and, of rat ovarian cells (Menon, K. M. J. & Azhar, S.) 433–442
Proteins, phosphorylation of, by, of proteins endogenous to various neonatal and adult mouse tissues and to various mouse tumours (Malkinson, A. M. & McSwigan, C. E.) 423–432
Proteoglycans, cartilage, degradation of, by a neutral proteinase secreted by cultured rabbit bone-marrow macrophages (Hauser, P. & Vaes, G.) 275–284
Proteolysis, energy requirement for, of 125I-labelled serum albumin in mouse liver and kidney slices (Mego, J. L. & Farb, R. M.) 233–238
Protons, evidence for the symport of sugars and, in Rhodotorula gracilis (Höfer, M. & Misra, P. C.) 15–22
Pyrimidine nucleotides, effect of ammonia on the biosynthesis of pyrimidine nucleotides and, in rat liver and brain in vivo (Skaper, S. D., O’Brien, W. E. & Schafer, I. A.) 457–464
Pyrimidine nucleotides, effect of ammonia on the biosynthesis of purine nucleotides and, in rat liver and brain in vivo (Skaper, S. D., O’Brien, W. E. & Schafer, I. A.) 457–464
Pyruvate, effects of dichloroacetate, α-cyano-4-hydroxy-cinnamate and the concentration of, on gluconeogenesis, ketogenesis and 3-hydroxybutyrate/acetocetate concentration ratios in isolated rat hepatocytes (Demaugre, F., Leroux, J.-P. & Cartier, P.) 91–96
Pyruvate, exchange properties, pH-dependence and mechanism of the carrier of the transport of ketone bodies and, across rat liver mitochondrial membrane (Halestrap, A. P.) 377–387
Pyruvate, stimulation through changes in the transmembrane pH gradient of the transport of, into metabolizing rat liver mitochondria after the administration of glucagon (Halestrap, A. P.) 389–398
Red blood cells, see Erythrocytes
Redox potentials, determination of the N-terminal amino acid sequences and, of two ferredoxins from Nostoc strain MAC (Hutson, K. G., Rogers, L. J., Haslett, B. G., Boulfer, D. & Cammack, R.) 465–477
Respiratory chain, stimulation of, of rat liver mitochondria between cytochrome c1 and cytochrome c after the administration of glucagon (Halestrap, A. P.) 399–405
Reticulocytes, rabbit, evidence that all factors required for the biosynthesis of protein by, are retained on heparin–Sepharose (Hradec, J. & Dušek, Z.) 1–7
Reticulum, endoplasmic, liver, rat, fractionation of the membranes of, on the basis of their surface properties (OhsIson, R., Jergil, B. & Walter, H.) 189–192

1978
INDEX OF SUBJECTS

Retinyl phosphate, transfer of glycosyl groups from nucleotide sugars to \( C_{18} \) and \( C_{35} \) polypropyl phosphates and, by rat liver microsomal subfractions and Golgi-apparatus membranes (Bergman, A., Mankowski, T., Chojnacki, T., De Luca, L. M., Peterson, E. & Dallner, G.) 123–127

*Rhodotorula gracilis*, evidence for the symport of protons and sugars in (Höfer, M. & Misra, P. C.) 15–22

Ribonucleic acid, absence of parallelism between the concentrations of polyamines, deoxyribonucleic acid and, during the growth of cucumber cotyledons induced by cytokinins (Suresh, M. R. & Adiga, P. R.) 185–188

Ribonucleic acid, effects of low concentrations of ouabain on the induction by prolactin of the biosynthesis of, and protein and fatty acids in rabbit mammary-gland explants (Falconer, I. R., Forsyth, I. A., Wilson, B. M. & Dils, R.) 509–516

Ribonucleic acid, messenger, albumin, effect of dietary deficiency of protein on the biosynthesis of albumin and on the concentration of, in rat liver (Pain, V. M., Clemens, M. J. & Garlick, P. J.) 129–135

Ribonucleic acid, nuclear, heterogeneous, uterus, rat, characterization of, and the effect of oestradiol-17β on its biosynthesis (Aziz, S. & Knowler, J. T.) 587–593

Ribonucleic acid, transfer, aminoacyl-, binding of chloro- amphenicol and of a fragment of, to ribosomes and to a ribosome precursor from a mutant of *Escherichia coli* (Butler, P. D., Sims, P. F. G. & Wild, D. G.) 503–508


Ribosomes, *Escherichia coli*-mutant, binding of chloro- amphenicol and of a fragment of aminoacyl-transfer ribonucleic acid to, and a ribosome precursor (Butler, P. D., Sims, P. F. G. & Wild, D. G.) 503–508

Ribosomes, free, thyrotropin-stimulated recruitment of, on to ox and dog thyroid-gland membrane-bound thyroglobulin-synthesizing polyribosomes (Davies, E., Dumont, J. E. & Vassart, G.) 227–231

Ribosomes, liver, rat, decreased activity of peptide- elongation factors associated with, after treatment with cholesterol esterase (Hradec, J., Tuháčková, Z. & Dušek, Z.) 9–13

Ribosomes, reticulocyte, rabbit, evidence that all factors required for the biosynthesis of protein by, are retained on heparin-Sepharose (Hradec, J. & Dušek, Z.) 1–7

Ruthenocene, acetyl-, identification of a glucuronide as the major metabolite of, in the bile and urine of the rat (Taylor, A. J. & Wenzel, M.) 77–82

Silicic acid, uptake of, by rat liver mitochondria (Johnson, R. N. & Volcani, B. E.) 557–568

Small intestine, see Intestine, small

Spermatozoa, guinea-pig, evidence that increased influx of calcium ions is a component of the capacitation of (Singh, J. P., Babcock, D. F. & Lardy, H. A.) 549–556

Spleen, mouse, neonatal and adult, phosphorylation of proteins endogenously to, and other tissues and to various mouse tumours (Malkinson, A. M. & McSwigan, C. E.) 423–432

Sporulation, purification and properties of an extracellular manganese ion-stimulated deoxyribonuclease produced during, of *Bacillus subtilis* Marburg 168 (Akrigg, A.) 69–76

Sporulation, release of extracellular manganese ion-stimulated deoxyribonuclease as a marker event in, of *Bacillus subtilis* Marburg 168 (Akrigg, A. & Mandelstam, J.) 63–67

Starvation, contribution of serum triacylglycerol to liver triacylglycerol in the rat during (Lipkin, E. W., Cooper, C. & Shipley, R. A.) 205–218

Starvation, effect of, on the subcellular localization of lipoprotein lipase in rat epididymal fat-cells (Vanhove, A., Wolf, C., Breton, M. & Glangeaud, M.-C.) 239–245

Starvation, effects of ammonia and norvaline on the metabolism of lactate in hepatocytes isolated from rats during (Grunnet, N. & Katz, J.) 595–603

Starvation, formation and utilization of 3-hydroxy-3- methylglutarate in rat liver mitochondria during streptozotocin-diabetes and (Deana, R., Fabbro, M. & Rigoni, F.) 371–375

Starvation, rate of release of liver triacylglycerol into serum in the rat during (Palmer, J. F., Cooper, C. & Shipley, R. A.) 219–226

Streptozotocin-diabetes, see Diabetes, streptozotocin- induced

Succinate, increase in the rate of oxidation of, by rat liver mitochondria after the administration of glucagon (Halestrap, A. P.) 399–405

Sucrose, intramolecular labelling of, biosynthesized from \([^{14}C]\)carbon dioxide or \([^{14}C]\)serine by pea and wheat leaves (Bird, I. F., Cornelius, M. J., Keys, A. J. & Whittingham, C. P.) 23–27

Sucrose, intramolecular labelling of, biosynthesized from \([^{14}C]\)carbon dioxide or \([^{14}C]\)serine by pea and wheat leaves (Bird, I. F., Cornelius, M. J., Keys, A. J. & Whittingham, C. P.) 23–27

Sugars, evidence for the symport of protons and, in *Rhodotorula gracilis* (Höfer, M. & Misra, P. C.) 15–22

Sulphate, inorganic, availability of, in blood for the formation of the sulphate conjugate of harmol in rat liver (Mulder, G. J. & Scholtens, E.) 247–251

Sulphate, inorganic, incorporation of glucosamine and, into glycosaminoglycans in cultures of normal and malignant human brain glial cells (Glimelius, B., Norling, B., Westermark, B. & Wasteson, Å.) 443–456

Temperature, dependence on, of the loss of latency of rat liver lysosomal enzymes (Ruth, R. C. & Weglicki, W. B.) 163–173


Vol. 172
Thyroglobulin, thyrotropin-stimulated recruitment of free ribosomes on to ox and dog thyroid-gland membrane-bound polyribosomes synthesizing (Davies, E., Dumont, J. E. & Vassart, G.) 227–231
Thyroid gland, ox and dog, thyrotropin-stimulated recruitment of free ribosomes on to membrane-bound thyroglobulin-synthesizing polyribosomes of (Davies, E., Dumont, J. E. & Vassart, G.) 227–231
Thyrotropin, stimulation by, of the recruitment of free ribosomes on to ox and dog thyroid-gland membrane-bound thyroglobulin-synthesizing polyribosomes (Davies, E., Dumont, J. E. & Vassart, G.) 227–231
x-Tocopherol, possible interrelationship between vitamin B12 and, in the disturbance in the metabolism of 2-methylmalonate in the rat during vitamin E deficiency (Pappu, A. S., Fatterpaker, P. & Sreenivasan, A.) 115–121
Transfer ribonucleic acid, see Ribonucleic acid, transfer
Triacylglycerol lipase, complete loss of the heparin-releasable activity of, from rat liver after the administration of collagenase (Thomas, J., Debeer, L. J. & Mannaeerts, G. P.) 177–179
Triacylglycerol, liver, rat, contribution of serum triacylglycerol to, during starvation (Lipkin, E. W., Cooper, C. & Shipley, R. A.) 205–218
Tricarboxylic acid cycle, regulation of the metabolism of glutamate by the activity of, in rat brain mitochondria (Dennis, S. C. & Clark, J. B.) 155–162
1,1,1-Trichloro-2,2-bis-(p-chlorophenyl)ethane (DDT), evidence that the induction by, of the activities of drug-metabolizing enzymes in rat liver is accompanied by an increase in the activity of elongation factor 1 (Young, E. T. & Nicholls, D. McE.) 479–486
Triglyceride, see Triacylglycerol
Triticum aestivum, see Wheat
Tryptophan pyrolyase, effect of early depletion of haem by clinical and experimental exacerbators of porphyria on the concentration of regulatory free haem and the activity of, in rat liver (Badawy, A. A.-B.) 487–494
Tumour cells, human, various, loss of cell-population-density-dependent incorporation of fucose into the glycolipids of, in culture (Gacto, M.) 181–184
Tumours, mouse, various, phosphorylation of proteins endogenous to various neonatal and adult mouse tissues and to (Malkinson, A. M. & McSwigan, C. E.) 423–432
Ubiquinone-1, role of phospholipids in the reduction of, and its analogues by ox heart mitochondrial reduced nicotinamide–adenine dinucleotide dehydrogenase (Ragan, C. I.) 539–547
Urate, rate-limiting factors in the biosynthesis of glucose and, in isolated chicken hepatocytes (Mapes, J. P. & Krebs, H. A.) 193–203
Urea, effects of atraclylides on the biosynthesis of glucose and, in isolated rat hepatocytes (Stubbs, M., Vignais, P. V. & Krebs, H. A.) 333–342
Urinary, identification of a glucuronide as the major metabolite of acetylthracene in, and bile of the rat (Taylor, A. J. & Wenzel, M.) 77–82
Uterus, rat, characterization of heterogeneous nuclear ribonucleic acid of, and the effect of oestradiol-17β on its biosynthesis (Aziz, S. & Knowler, J. T.) 587–593
Uterus, rat, intracellular relationships of the oestrogen-receptor proteins in, and hypothalamus during the oestrous cycle (White, J. O., Thrower, S. & Lim, L.) 37–47
Vasopressin, rapid stimulation by oxtocin, angiotensin II and, of the degradation of glycogen in suspension of isolated rat hepatocytes (Hems, D. A., Rodrigues, L. M. & Whittington, P. D.) 311–317
Vitamin B12, possible interrelationship between vitamin E and, in the disturbance in the metabolism of 2-methylmalonate in the rat during vitamin E deficiency (Pappu, A. S., Fatterpaker, O. & Sreenivasan, A.) 115–121
Vitamin D, kinetics of the reaction catalysed by rat liver microsomal cholecalciferol 25-hydroxylase from animals depleted of and repleted with (Delvin, E. E., Arabian, A. & Glorieux, F. H.) 417–422
Vitamin E, activity of phospholipase A2 of rat liver mitochondria during deficiency of (Pappu, A. S., Fatterpaker, P. & Sreenivasan, A.) 349–352
Vitamin E, possible interrelationship between vitamin B12 and, in the disturbance in the metabolism of 2-methylmalonate in the rat during vitamin E deficiency (Pappu, A. S., Fatterpaker, P. & Sreenivasan, A.) 115–121
Yeast (Rhodotorula gracilis), evidence for the symport of protons and sugars in (Höfer, M. & Misra, P. C.) 15–22

1978
The BIOCHEMICAL JOURNAL

Cellular Aspects

Volume 172 1978

EDITORIAL BOARD

Chairman
J. T. Dingle

Deputy Chairmen
J. A. Lucy
A. P. Ryle
D. H. Williamson
R. R. Offord

Editorial Office Manager
A. G. J. Evans

P. M. Bayley*
J. W. Bradbeer
R. C. Bray
D. N. Brindley
H. G. Britton
R. B. Cain
M. Cannon
J. B. Clark
A. J. Cornish-Bowden
D. D. Davies
R. M. Denton
F. M. Dickinson
R. R. Dils
G. J. Dutton
D. C. Ellwood
J. L. Gordon
D. E. Griffiths
L. A. Grivell

M. R. Hollaway
R. C. Hughes
A. J. Kenny
P. Lund
W. I. P. Mainwaring
R. M. Marchbanks
C. I. Pogson
D. Robinson
E. V. Rowsell
D. Schulster
J. E. Scott
S. P. Spragg*
D. R. Stanworth
M. J. A. Tanner

* Nominated by the British Biophysical Society

Overseas Advisory Panel

H. Beinert (U.S.A.), C. de Duve (Belgium and U.S.A.), H. F. DeLuca (U.S.A.), W. Fiers (Belgium), O. Hayaishi (Japan), B. Hess (Germany), M. Ya. Karpeisky (U.S.S.R.), D. B. Keech (Australia), T. C. Laurent (Sweden), P. Siekevitz (U.S.A.), G. P. Talwar (India), A. Tissières (Switzerland), O. Wieland (Germany), H. G. Williams-Ashman (U.S.A.)

BS London: The Biochemical Society © 1978