INDEX OF AUTHORS

ALLEN, T. D. 267
APPLETON, T. C. 319, 339

BARD, J. B. L. 371
BARNES, A. 187
BELTRAME, F. 103
BRAMBILLA, C. 103
BRAMWELL, M. E. 49
CAVAZZA, B. 81, 103
CHURCH, K. 301
CROSSLEY, R. 419

DE SOUZA, W. 287
DICKINSON, H. G. 177
DOHRMANN, U. 161
DONALDSON, D. J. 117
ELLEM, K. A. O. 249
ESHHAR, Z. 149

FISHER, P. R. 161
FORER, A. 1
FRASER, R. S. S. 187

GERSHON, M. D. 439
GOLINSKA, K. 459
GRANT, W. N. 161
GREEN, C. R. 351

HARRIS, H. 49
HOCKADAY, A. 339
HOLBERTON, D. V. 419
HOWARD, L. 27
HUANG, Y. L. 439

KAY, G. F. 249
KENDALL, M. D. 319
KIMBLE, M. 301
KITAMURA, A. 209
KUPSKY, W. J. 439

LANE, N. J. 223
MAHAN, J. T. 117
MARALDI, N. 103

MARGEL, S. 149
MARKS, G. E 171
MARTINEZ-PALOMO, A 287
McBRIDE, W. H. 371
MEIRELLES, M. N. L. 287

NAGAI, R 385
NELSON, W. J. 129
NICHOLSON, J. K. 319
NICOLINI, C. 103
NOIROT, C. 351
NOIROT-TIMOTHEE, C. 351

OFARIM, M. 149

PARRY, D. 177
PATRONE, E. 81, 103
PIOLI, F 81, 103
PORTER, E. K. 177

RICCI, E. 81
ROSS, A. R. 371

SAGA, Y 237
SCHOR, A. M. 267
SCHOR, S. L. 267
SILLERS, P. J. 1
SOUTO-PADRONE, T. 287
SPIEGEL, E. 27
STEERS, E. Jr 209
STEPHEN, J. 339
SWALES, L. S. 223

TAKAGI, S. 385
TAMIR, H. 439
TRAUB, P. 129
TRAUB, U. E. 129
TREFILETTI, V. 81, 103

WARLEY, A. 319, 339
WHITE, M. K. 49
WILLIAMS, K. L. 161
WILLIAMS, N. E. 407

YANAGISAWA, K. 237
INDEX OF SUBJECTS

Action spectrum
for changes in spindle fibre birefringence after u.v. irradiation in spermatocytes:
SILLERS & FORER 1

Affinity ligands
conjugated with microsphere beads for cell fractionation: MARCEL, OFARIM & ESHHAR 149

Attachment
of Paramecium to polystyrene surfaces: KITAMURA & STEERS 209

Binding glycoprotein
of rat platelets to serotonin: TAMIR, KUPSKY, HUANG & GERSHON 439

Biogenesis
of surface membranes in deciliated Tetrahymena: WILLIAMS 407

Birefringence
in single chromosomal spindle fibres, changes after u.v. irradiation: SILLERS & FORER 1

Cadmium nephrotoxicity
in proximal and distal tubules in mouse: KENDALL, WARLEY, NICHOLSON & APPLETON 319

Calcium ions
in regulation of cytoplasmic streaming in Vallisneria: TAKAGI & NAGAI 385

Cell cycle
theoretical analysis of macromolecular synthesis: FRASER & BARNES 187

Cell fractionation
with affinity ligands conjugated to microsphere beads: MARCEL, OFARIM & ESHHAR 149

Cell fusion inducing factor
secreted by giant cells of Dictyostelium: SAGA & YANAGISAWA 237

Cell junctions
development in sea-urchin embryos: SPIEGEL & HOWARD 27

Cell structure
higher-order, in resting calf thymus cells: CAVAZZA, TREFILETTI, PIOLI, RICCI & PATRONE 81

Chromatin
higher-order structure in resting cells: NICOLINI, CAVAZZA, TREFILETTI, PIOLI, BELTRAME, BRAMBILLA, MARALDI & PATRONE 103

Chromosome movement
in crane-fly spermatocytes: SILLERS & FORER 1

Chromosomes
plant, Feulgen banding of heterochromatin in: MARKS 171

Cleavage
in Drosophila eggs: KIMBLE & CHURCH 301

Collagenous substrata
in study of culture conditions for epithelial cells: SCHOR, SCHOR & ALLEN 267

Concanavalin A
participation of binding sites in interaction of Trypanosoma with macrophages: MEFRELLES, MARTINEZ-PALOMO, SOUTO-PADRON & DE SOUZA 287

Computer image analysis
of rat liver cell chromatin fibres: NICOLINI, CAVAZZA, TREFILETTI, PIOLI, BELTRAME, BRAMBILLA, MARALDI & PATRONE 103

Conditioned medium
for cultures of human malignant melanoma: ELLEM & KAY 249

Cryo-jet
propane rapid freezing of insect intercellular junctions: SWALES & LANE 223

Cytoplasmic streaming
induction in Vallisneria mesophyll: TAKAGI & NAGAI 385

Development
of cell junctions in sea-urchin embryos: SPIEGEL & HOWARD 27

Dictyostelium discoideum
macrocyst development in: SAGA & YANAGISAWA 237
spontaneous turning behaviour: FISHER, GRANT, DOHRMANN & WILLIAMS 161

Drosophila melanogaster
eggs, meiosis and early cleavage: KIMBLE & CHURCH 301

Electron microscopy
of chromatin from calf thymus: CAVAZZA, TREFILETTI, PIOLI, RICCI & PATRONE 81

Elemental analysis
of mouse kidney tubules: KENDALL, WARLEY, NICHOLSON & APPLETON 319
Endothelial cells
  effects of culture conditions on: SCHOR, SCHOR & ALLEN 267

Epidermal cells
  migration during wound closure: DONALDSON & MAHAN 117

Extracellular coats
  hyaluronidase-sensitive, SEM after freeze-drying: BARD, MCBRIDE & ROSS 371

Extracellular matrix
  in development of cell junctions: SPIEGEL & HOWARD 27

Feulgen banding
  of heterochromatin in plant chromosomes: MARKS 171

Fibronectin
  as substrate for epidermal cell migration in wound closure: DONALDSON & MAHAN 117

Fibrinogen
  as substrate for epidermal cell migration in wound closure: DONALDSON & MAHAN 117

Filaments
  2-5 nm, from Giardia: CROSSLEY & HOLBERTON 419

Freeze-drying
  of hyaluronidase cell coats, SEM: BARD, MCBRIDE & ROSS 371

Freeze-etching
  of nuclei from rat liver cells: NICOLINI, CAVAZZA, TREFILETTI, PIOLI, BELTRAME, BRAMBILLA, MARALDI & PATRONE 103

Frozen sections
  of HeLa S3 cells for microanalysis of elemental levels in cell cycle: WARLEY, STEPHEN, HOCKADAY & APPLETON 339

Gametogenesis
  in Lilium: PORTER, PARRY & DICKINSON 177

Gap junctions
  isolation and characterization in invertebrates: GREEN, NOIROT-TIMOTHÉE & NOIROT 351

Giardia
  cytoskeleton proteins, extraction and repolymerization: CROSSLEY & HOLBERTON 419

Giardin
  extraction from Giardia and repolymerization in vitro: CROSSLEY & HOLBERTON 419

Growth assay
  in cultured human malignant melanoma: ELLEM & KAY 249

HeLa S3 cells
  X-ray microanalysis of elemental levels in cell cycle: WARLEY, STEPHEN, HOCKADAY & APPLETON 339

Heterochromatin
  Feulgen banding in plant chromosomes: MARKS 171

Hexose transport
  kinetics in malignant/non-malignant hybrids: WHITE, BRAMWELL & HARRIS 49

Hyaluronidase-sensitive cell coats
  freeze-fracture and SEM: BARD, MCBRIDE & ROSS 371

Hybrid cells
  kinetic parameters of hexose transport in malignancy: WHITE, BRAMWELL & HARRIS 49

Hydrophobic reagents
  induce attachment of Paramecium to polystyrene surfaces: KITAMURA & STEERS 209

Immunoglobulin G
  induction of attachment of Paramecium to polystyrene surfaces: KITAMURA & STEERS 209

Insect central nervous system
  rapid freezing of intercellular junctions: SWALES & LANE 223

Intermediate filament
  protein, vimentin, in cultured mammalian cells: TRAUB, NELSON & TRAUB 129

Junction isolation
  in invertebrates: GREEN, NOIROT-TIMOTHÉE & NOIROT 351

Junctions
  gap, septate and tight, in insects, rapid freezing by cryo-jet: SWALES & LANE 223

Kidney tubules
  X-ray microanalysis of proximal and distal: KENDALL, WARLEY, NICHOLSON & APPLETON 319

Lilium
  male meiosis, poly(A)+ RNA changes: PORTER, PARRY & DICKINSON 177

Macrocyst development
  in Dictyostelium discoideum: SAGA & YANAGISAWA 237

Macromolecular synthesis
  during cell cycle, theoretical analysis: FRASER & BARNES 187
Index of Subjects

Macrophages
interaction with Trypanosoma, participation of ConA binding sites: MEIRELLES, MARTINEZ-PALOMA, SOUTO-PADRON & DE SOUZA 287

Malignancy
kinetics of hexose transport in hybrids between malignant and non-malignant cells: WHITE, BRAMWELL & HARRIS 49

Mammalian cells
cultured, vimentin, in: TRAUB, NELSON & TRAUB 129

Meiosis
in Drosophila eggs: KIMBLE & CHURCH 301
male in Lilium, changes in poly(A)+ RNA: PORTER, PARRY & DICKINSON 177

Melanoma
human, nature of conditioning nutrients for culture: ELLEM & KAY 249

Membranes
surface, regeneration in deciliated Tetrahymena: WILLIAMS 407

Messenger RNA
in male meiosis in Lilium: PORTER, PARRY & DICKINSON 177

Microsphere beads
conjugated with affinity ligands for cell fractionation: MARGEL, OFARIM & ESHHAR 149

Microtubules
in mitosis of crane-fly spermatocytes: SILLERS & FORER 1

Migration
of epidermal cells during wound closure: DONALDSON & MAHAN 117

Mitosis
in crane-fly spermatocytes: SILLERS & FORER 1

Nuclear structure
by freeze-etching of rat liver cells: NICOLINI, CAVAZZA, TREFILETTI, PIOLI, BELTRAME, BRAMBILLA, MARALDI & PATRONE 103

Nutrient concentration
culture of human malignant melanoma: ELLEM & KAY 249

Orientation
of D. discoideum slugs: FISHER, GRANT, DOHRMANN & WILLIAMS 161

Paramecium
attachment to polystyrene surfaces: KITAMURA & STEERS 209

Platelets
of rat, serotonin-binding glycoprotein: TAMIR, KUPSKY, HUANG & GERSHON 439

Polystyrene
attachment of Paramecium: KITAMURA & STEERS 209

Protein synthesis
in deciliated Tetrahymena: WILLIAMS 407

Pyruvate
in growth of human malignant melanoma: ELLEM & KAY 249

Rapid freezing
of insect intercellular junctions by cryo-jet: SWALES & LANE 223

Sea-urchin
embryos, development of cell junctions: SPIEGEL & HOWARD 27

SEM
of hyaluronidase-sensitive cell coats after freeze-fracture: BARD, MCBRIDE & ROSS 371

Septate junctions
invertebrate, isolation and characterization: GREEN, NOIROT-TIMOTHEE & NOIROT 351

Serotonin
-binding glycoprotein of rat platelets: TAMIR, KUPSKY, HUANG & GERSHON 439

Serum dependence
of human malignant cells in culture: ELLEM & KAY 249

Spindle fibres
birefringence changes after u.v. irradiation: SILLERS & FORER 1

Spontaneous behaviour
by Dictyostelium discoideum: FISHER, GRANT, DOHRMANN & WILLIAMS 161

Sprouting cells
in bovine aortic endothelium: SCHOR, SCHOR & ALLEN 267

Streaming
cytoplasmic, in Vallisneria mesophyll: TAKAGI & NAGAI 385

Synchronized cultures
of HeLa S3 cells, X-ray microanalysis: WARLEY, STEPHEN, HOCKADAY & APPLETON 339

Tetrahymena
surface membrane regeneration: WILLIAMS 407

Tissue-culture conditions
effects on bovine aortic epithelial cells: SCHOR, SCHOR & ALLEN 267

Theoretical analysis
of method for determining pattern of macromolecular synthesis during cell cycle: FRASER & BARNES 187
Index of Subjects

Trypanosoma cruzi
interaction with macrophages, participation of ConA binding sites: MEJRELLES, MARTINEZ-PALOMO, SOUTO-PADRON & DE SOUZA 287

Tubulin
from Giardia cytoskeleton: CROSSLEY & HOLBERTON 419

Ultraviolet light irradiation
of single chromosomal spindle fibres in crane-fly spermatocytes: SILLERS & FORER 1

Vallisneria
mesophyll, cytoplasmic streaming in: TAKAGI & NAGAI 385

Vimentin
in cultured mammalian cells: TRAUB, NELSON & TRAUB 129

X-ray microanalysis
of HeLa S3 cells, elemental levels in cell cycle: WARLEY, STEPHEN, HOCKADAY & APPLETON 339
of tubule cells in mouse kidney: KENDALL, WARLEY, NICHOLSON & APPLETON 319
Sitters, P. J. and Forer, A. Action spectrum for changes in spindle fibre birefringence after ultraviolet microbeam irradiations of single chromosomal spindle fibres in crane-fly spermatocytes

Spiegel, E. and Howard, L. Development of cell junctions in sea-urchin embryos

White, M. K., Bramwell, M. E. and Harris, H. Kinetic parameters of hexose transport in hybrids between malignant and non-malignant cells


Nicolini, C., Cavazza, B., Trefiletti, V., Pioli, F., Beltrame, F., Brambilla, G., Maraldi, N. and Patrone, E. Higher-order structure of chromatin from resting cells. II. High-resolution computer analysis of native chromatin fibres and freeze-etching of nuclei from rat liver cells

Donaldson, D. J. and Mahan, J. T. Fibrinogen and fibronectin as substrates for epidermal cell migration during wound closure

Traub, U. E., Nelson, W. J. and Traub, P. Polyacrylamide gel electrophoretic screening of mammalian cells cultured in vitro for the presence of the intermediate filament protein vimentin

Margel, S., Ofarim, M. and Eshhar, Z. Cell fractionation with affinity ligands conjugated to agarose-polyacrolein microsphere beads

Fisher, P. R., Grant, W. N., Dohrmann, U. and Williams, K. L. Spontaneous turning behaviour by Dictyostelium discoideum slugs

Marks, G. E. Feulgen banding of heterochromatin in plant chromosomes

Porter, E. K., Parry, D. and Dickinson, H. G. Changes in poly(A)^+ RNA during male meiosis in Lilium

Fraser, R. S. S. and Barnes, A. Theoretical analysis of a method for determining the pattern of macromolecular synthesis during the cell cycle

Kitamura, A. and Steers, E. Jr. Attachment of Paramecium to polystyrene surfaces. II. Induction of the attachment by hydrophobic reagents or immune immunoglobulin G

Swales, L. S. and Lane, N. J. Insect intercellular junctions: rapid freezing by jet propane

Saga, Y. and Yanagisawa, K. Macrocyst development in Dictyostelium discoideum. III. Cell-fusion inducing factor secreted by giant cells

Ellem, K. A. O. and Kay, G. F. The nature of conditioning nutrients for human malignant melanoma cultures

Schor, A. M., Schor, S. L. and Allen, T. D. Effect of culture conditions on the proliferation, morphology and migration of bovine aortic endothelial cells

Meirelles, M. N. L., Martinez-Palomino, A., Souto-Padron, T. and De Souza, W. Participation of concanavalin A binding sites in the interaction between Trypanosoma cruzi and macrophages

Kimble, M. and Church, K. Meiosis and early cleavage in Drosophila melanogaster eggs: The effects of the claret non-disjunctional mutation

Kendall, M. D., Warley, A., Nicholson, J. K. and Appleton, T. C. X-ray microanalysis of proximal and distal tubule cells in the mouse kidney, and the influence of cadmium on the concentration of natural intracellular elements

Warley, A., Stephen, J., Hockaday, A. and Appleton, T. C. X-ray microanalysis of HeLa S3 cells. II. Analysis of elemental levels during the cell cycle

Continued on inside back cover

The Company of Biologists Limited 1983
Department of Zoology, University of Cambridge, Downing Street, Cambridge CB2 3EJ

© The Company of Biologists Limited 1983
Filmset by Filmtype Services Limited and Printed in England by Pindar Print Limited, Scarborough, North Yorkshire
Contents continued from back cover

351 Green, C. R., Noirot-Timothée, C. and Noirot, C. Isolation and characterization of invertebrate smooth septate junctions

371 Bard, J. B. L., McBride, W. H. and Ross, A. R. Morphology of hyaluronidase-sensitive cell coats as seen in the SEM after freeze-drying

385 Takagi, S. and Nagai, R. Regulation of cytoplasmic streaming in Vallisneria mesophyll cells

407 Williams, N. E. Surface membrane regeneration in deciliated Tetrahymena

419 Crossley, R. and Holberton, D. V. Selective extraction with Sarkosyl and repolymerization in vitro of cytoskeleton proteins from Giardia

439 Tamir, H., Kupsky, W. J., Huang, Y. L. and Gershon, M. D. Serotonin-binding glycoprotein of rat platelets

459 Golinska, K. Regulation of ciliary pattern in Dileptus (Ciliata). II. Formation of a cortical domain of sensory cilia from a domain of locomotor cilia