

# Edited for the British Pharmacological Society by

**J.F. Mitchell** (*Chairman*)

**G.M. Lees** (*Secretary*)

**Margaret Day** (*Press Editor*)

**C.V. Wedmore** (*Assistant Press Editor*)

## EDITORIAL BOARD

**T. Bennett**  
Nottingham  
**N.J.M. Birdsall**  
London  
**C.M. Bradshaw**  
Manchester  
**G. Burnstock**  
London  
**J.B. Caldwell**  
London  
**B.A. Callingham**  
Cambridge  
**J.A.J.H. Critchley**  
Edinburgh  
**Maureen M. Dale**  
London  
**R.J. Flower**  
Bath  
**J.C. Foreman**  
London  
**A.R. Green**  
London  
**M.C. Harris**  
Birmingham  
**G. Henderson**  
Cambridge  
**C.R. Hiley**  
Cambridge  
**R.G. Hill**  
Cambridge  
**J.R.S. Hoult**  
London  
**P.P.A. Humphrey**  
Ware  
**L.L. Iversen**  
Harlow  
**D.H. Jenkinson**  
London  
**P.G. Jenner**  
London  
**W.E. Lindup**  
Liverpool  
**D. Lodge**  
London  
**R. McBurney**  
Newcastle

**J.C. McGrath**  
Glasgow  
**D.S. McQueen**  
Edinburgh  
**C.A. Marsden**  
Nottingham  
**R.J. Marshall**  
Newhouse  
**S.R. Nahorski**  
Leicester  
**D.A.A. Owen**  
Welwyn Garden City  
**M.E. Parsons**  
Welwyn Garden City  
**Priscilla J. Piper**  
London  
**N.L. Poyser**  
Edinburgh  
**T.W. Robbins**  
Cambridge  
**M. Spedding**  
Edinburgh  
**T.L.B. Spriggs**  
Cardiff  
**T.W. Stone**  
London  
**E. Szabadi**  
Manchester  
**D.A. Terrar**  
Oxford  
**D.R. Tomlinson**  
Nottingham  
**E.M. Vaughan Williams**  
Oxford  
**R.M. Wadsworth**  
Glasgow  
**D.I. Wallis**  
Cardiff  
**D.F. Weetman**  
Sunderland  
**T.J. Williams**  
Harrow  
**G.N. Woodruff**  
Harlow  
**J.M. Young**  
Cambridge

## CORRESPONDING EDITORS

**P.R. Adams**  
Galveston, U.S.A.  
**J. Axelrod**  
Bethesda, U.S.A.  
**C. Bell**  
Melbourne, Australia  
**F.E. Bloom**  
La Jolla, U.S.A.  
**A.L.A. Boura**  
Clayton, Australia  
**P.B. Dews**  
Boston, U.S.A.  
**T. Godfraind**  
Brussels, Belgium  
**L.I. Goldberg**  
Chicagoo, U.S.A.  
**S.Z. Langer**  
Paris, France  
**R.A. Lewis**  
Harvard, U.S.A.  
**E. Muscholl**  
Mainz, Germany  
**M. Otsuka**  
Tokyo, Japan  
**R.H. Roth**  
New Haven, U.S.A.  
**M. Schachter**  
Alberta, Canada  
**S.H. Snyder**  
Baltimore, U.S.A.  
**L. Szekeres**  
Szeged, Hungary  
**B. Uvnas**  
Stockholm, Sweden  
**P.A. Van Zwieten**  
Amsterdam, Netherlands  
**G. Velo**  
Verona, Italy  
**M.B.H. Youdim**  
Haifa, Israel

Papers will be considered for publication on all aspects of pharmacology, including chemotherapy.

*The British Journal of Pharmacology* is published monthly by the Scientific & Medical Division, The Macmillan Press Ltd, Houndmills, Basingstoke, Hampshire RG21 2XS. Telephone: Basingstoke 29242 ISSN 0007 - 1188

Registered Office: 4 Little Essex Street, London WC2R 3LF.

Manuscripts (two copies) should be sent to Dr G. M. Lees, Editorial Office, University of Aberdeen, Marischal College, Aberdeen AB9 1AS. Authors should consult the instructions inside the back cover.

The journal is covered by *Current Contents* and *Excerpta Medica*.

Annual subscription UK £175; USA & Canada, US \$410, Airmail US \$500; Rest of world, £199, Airmail £275 (or equivalent in any other currency). (Orders must be accompanied by remittance. Prices correct at time of publication.)

Cheques should be made payable to Macmillan Journals Limited. All circulation, subscription or general enquiries should be sent to: The Macmillan Press Ltd, Farndon Road, Market Harborough, Leicestershire, LE16 9NR, UK.

Overseas subscribers may make payments into UK Post Office Giro Account No. 519 2455. Full details must accompany the payment.

Second Class postage paid at New York, NY. US Mailing Agent: Expeditors of the Printed Word Ltd, 515 Madison Avenue, New York, NY 10022.

Enquiries concerning advertising space and rates should be addressed to: David R. Guthrie, Advertising Dept., The Macmillan Press Ltd, Brunel Road, Houndmills, Basingstoke, Hampshire, England RG21 2XS. Telephone: 0256 29242.

Publisher: Harry Holt.

Production Services: Nigel McNeil-Smith.

Advertising: David R. Guthrie.

Promotion: Alison Baverstock.

Circulation Services: A.L. Clark.

© Copyright: Scientific & Medical Division, The Macmillan Press Ltd, 1986. All rights of reproduction are reserved in respect of all papers, articles, illustrations, etc., published in this journal in all countries of the world.

Authorization to photocopy items for internal or personal use, or the internal or personal use of specific clients, is granted by The Macmillan Press Ltd for libraries and other users registered with the Copyright Clearance Center (CCC) Transactional Reporting Service, provided that the base fee of £1.00 per copy, plus £0.10 per page is paid directly to CCC, 21 Congress St., Salem, MA 01970, USA.

0007 - 1188/86 \$1.00 + \$0.10

# INDEX TO VOLUME 89

## AUTHOR INDEX

### A

- ABRAHAM, J.M., BOURA, A.L.A., EVANS, R.G., JOHNSTON, C.I. & OLLEY, J.E. The effects of N-(cyclopropyl-methyl)-19-isopentyl-norvinol (M320), a potent agonist at  $\kappa$ - and  $\mu$ -opiate receptors, on urine excretion of rats, **89**, 759
- AKED, D., FOSTER, S.J., HOWARTH, A., McCORMICK, M.E. & POTTS, H.C. The inflammatory response of rabbit skin to topical arachidonic acid and its pharmacological modulation, **89**, 431
- AKIBA, T., MIYAZAKI, M. & TODA, N. Vasodilator actions of TRK-100, a new prostaglandin I<sub>2</sub> analogue, **89**, 703
- ALLAN, G., CAMBRIDGE, D., LEE-TSANG-TAN, L., VAN WAY, C.W. & WHITING, M.V. The protective action of allopurinol in an experimental model of haemorrhagic shock and reperfusion, **89**, 149
- ALLAN, G., CHAPPLE, D.J. & HUGHES, B. Effects of an increase in haemoglobin O<sub>2</sub> affinity produced by BW12C on myocardial function in the erythrocyte-perfused rabbit heart *in vitro* and myocardial infarct size in the dog, **89**, 183
- ALLCORN, R.J., CUNNANE, T.C. & KIRKPATRICK, K. Actions of  $\alpha$ ,  $\beta$ -methylene ATP and 6-hydroxydopamine on sympathetic neurotransmission in the vas deferens of the guinea-pig, rat and mouse: support for co-transmission, **89**, 647
- ALLEN, S.L., CORTIJO, R.W., FOSTER, R.W., MORGAN, G.P. & SMALL, R.C. Electrical and mechanical effects of BRL34915 in guinea-pig isolated trachealis, **89**, 395
- ALOSACHIE, I. & GODFRAIND, T. Role of cyclic GMP in the modulation by endothelium of the adrenolytic action of prazosin in the rat isolated aorta, **89**, 525
- ANDREWS, P.L.R. & WOOD, K.L. Systemic baclofen stimulates gastric motility and secretion via central action in the rat, **89**, 453
- ANTONELLI, T., BEANI, L., BIANCHI, C., RANDO, S., SIMONATO, M. & TANGANELLI, S. Cortical acetylcholine release is increased and  $\gamma$ -aminobutyric acid outflow is reduced during morphine withdrawal, **89**, 853
- ARCHER, T., DANYSZ, W., JONSSON, G., MINO, B.G. 5-Methoxy-N,N-dimethyltryptamine-induced analgesia is blocked by  $\alpha$ -adrenoceptor antagonists in rats, **89**, 277
- ARIMURA, H. & IKEMOTO, Y. Action of enflurane on cholinergic transmission in identified *Aplysia* neurones, **89**, 573
- ASHCROFT, S.J.H., HARRISON, D.E., POJE, M. & ROCIC, B. Structure-activity relationships of alloxan-like compounds derived from uric acid, **89**, 469
- ATCHISON, W.D., LUKE, V.S., NARAHASHI, T. & VOGEL, S.M. Nerve membrane sodium channels as the target site of brevetoxins at neuromuscular junctions, **89**, 731

### B

- BALFOUR, D.J.K., BENWELL, M.E.M., GRAHAM, C.A. & VALE, A.L. Behavioural and adrenocortical responses to nicotine measured in rats with selective lesions of the 5-hydroxytryptaminergic fibres innervating the hippocampus, **89**, 341
- BALLEJO, G., CALIXTO, J.B. & MEDEIROS, Y.S. *In vitro* effects of calcium entry blockers, chlorpromazine and fenoterol upon human pregnant myometrium contractility, **89**, 515
- BARANOWSKI, R., LYNN, B. & PINI, A. The effects of locally applied capsaicin on conduction in cutaneous nerves in four mammalian species, **89**, 267
- BARLOW, R.B. & DAWSON, S. The selectivity of the (-)- and (+)-forms of hyoscine methiodide and hyoscyamine camphorsulphonate for muscarinic (M<sub>2</sub>) receptors, **89**, 439
- BARLOW, R.B. & SHEPHERD, M.K. A further search for selective antagonists at M<sub>2</sub> muscarinic receptors, **89**, 837
- BARNES, P.J., CADIEUX, A., CARSTAIRS, J.R., GREENBERG, B., POLAK, J.M. & RHODEN, K. Vasoactive intestinal peptide in bovine pulmonary artery: localization, function and receptor autoradiography, **89**, 157
- BARRON, B.A. & HEXUM, T.D. Muscarinic receptor modulation of release of [Met<sup>5</sup>]enkephalin immunoreactive material and catecholamines from the bovine adrenal gland, **89**, 713
- BARRON, E., MARSHALL, R.J., MARTORANA, M. & WINSLOW, E. Comparative antiarrhythmic and electrophysiological effects known to inhibit calmodulin (TFP, W7 and bepridil), **89**, 603
- BEANI, L. *see* ANTONELLI, T., **89**, 853
- BEATTIE, D.T., CUNNANE, T.C. & MUIR, T.C. Effects of calcium channel antagonists on action potential conduction and transmitter release in the guinea-pig vas deferens, **89**, 235
- BENWELL, M.E.M. *see* BALFOUR, D.J.K., **89**, 341
- BHATT, J.D. & GULATI, O.D. The role of the sympathetic nervous system in oestrogen-induced hypertension in rats, **89**, 685
- BHoola, K.D. & PAY, S. Opioid inhibition of adenylate cyclase in the striatum and vas deferens of the rat, **89**, 99
- BLACK, J.W., GERSKOWITZ, V.P., LEFF, P. & SHANKLEY, N.P. Analysis of competitive antagonism when this property occurs as part of a pharmacological resultant, **89**, 547
- BLACKBURN, T.P., BORKOWSKI, K.R., FRIEND, J. & RANCE, M.J. On the mechanisms of  $\kappa$ -opioid-induced diuresis, **89**, 593
- BIANCHI, L. *see* ANTONELLI, T., **89**, 853
- BORKOWSKI, K.R. *see* BLACKBURN, T.P., **89**, 593
- BOUCHER, M., DUCHÊNE-MARULLAZ, P. & MOUN-

- DANGA, J.L. Studies on the stereoisomers of  $\beta$ -adrenoceptor antagonists in conscious A-V blocked dogs, **89**, 119
- BOUKILI, M.A., BUREAU, M., LAGENTE, V., LEFORT, J., LELLOUCH-TUBIANA, A., MALANCHÈRE, E. & VARGAFTIG, B.B. Pharmacological modulation of the effects of *N*-formyl-L-methionyl-L-leucyl-L-phenylalanine in guinea-pigs: involvement of arachidonic acid cascade, **89**, 349
- BOURA, A.L.A. *see* ABRAHAMS, J.M., **89**, 759
- BOURA, A.L.A., HODGSON, W.C. & KING, R.G. Changes in cardiovascular sensitivity of alloxan-treated diabetic rats to arachidonic acid, **89**, 613
- BOURUT, C., CHENU, E., GODENÈCHE, D., MADEL-MONT, J.-C., MARALT, R., MATHÉ, G. & MEYNIEL, G. Cytostatic action of two nitrosoureas derived from cysteamine, **89**, 539
- BRAGE, R., CORTIJO, J., ESPLUGUES, J., ESPLUGUES, J.V., MARTI-BONMATI, E. & RODRIGUEZ, C. Effects of calcium channel blockers on gastric emptying and acid secretion of the rat *in vivo*, **89**, 627
- BRAYDEN, J.E. & LARGE, W.A. Electrophysiological analysis of neurogenic vasodilatation in the isolated lingual artery of the rabbit, **89**, 163
- BULLOCK, G.R., TAYLOR, S.G. & WESTON, A.H. Influence of the vascular endothelium on agonist-induced contractions and relaxations in rat aorta, **89**, 819
- BUREAU, M. *see* BOUKILI, M.A., **89**, 349

## C

- CADIEUX, A. *see* BARNES, P.J., **89**, 157
- CALIXTO, J.B. *see* BALLEJO, G., **89**, 515
- CAMBRIDGE, D. *see* ALLAN, G., **89**, 149
- CARSTAIRS, J.R. *see* BARNES, P.J., **89**, 157
- CARSWELL, H. & YOUNG, J.M. Regional variation in the characteristics of histamine  $H_1$ -agonist mediated breakdown of inositol phospholipids in guinea-pig brain, **89**, 809
- CHAPPLE, D.J. *see* ALLAN, G., **89**, 183
- CHENU, E. *see* BOURUT, C., **89**, 539
- CHEUNG, D.W. & FUJIOKA, M. Inhibition of the excitatory junction potential in the guinea-pig saphenous artery by ANAPP<sub>3</sub>, **89**, 3
- CHIOECKEL, E.W., FEDAN, J.S. & MIKE, P. Tetrodotoxin-sensitive,  $K^+$ -induced relaxation of guinea-pig isolated trachealis in the presence of  $Ca^{2+}$ -entry blocking drugs,  $Ca^{2+}$ -free solution and after polyamine exposure, **89**, 27
- CONOLAN, S., QUINN, M.J. & TAYLOR, D.A. *In vivo* and *in vitro* activity of selective 5-hydroxytryptamine<sub>2</sub> receptor antagonists, **89**, 129
- CONZELMANN, U., MEYER, D.K. & SPERK, G. Stimulation of receptors of  $\gamma$ -aminobutyric acid modulates the release of cholecystokinin-like immunoreactivity from slices of rat neostriatum, **89**, 845
- CORBETT, A.D. & KOSTERLITZ, H.W. Bremazocine is an agonist at  $\kappa$ -opioid receptors and an antagonist at  $\mu$ -opioid receptors in guinea-pig myenteric plexus, **89**, 245
- CORTIJO, J. *see* BRAGE, R., **89**, 627
- CORTIJO, R.W. *see* ALLEN, S.L., **89**, 395
- CRITCHLEY, J.A.J.H., ELLIS, P., HENDERSON, C.G.,

UNGAR, A. & WEST, C.P. Muscarinic and nicotinic mechanisms in the responses of the adrenal medulla of the dog and cat to reflex stimuli and to cholinomimetic drugs, **89**, 831

- CUMMINGS, S.A., GROSZMANN, R.J. & KAUMANN, A.J. Hypersensitivity of mesenteric veins to 5-hydroxytryptamine- and ketanserin-induced reduction of portal pressure in portal hypertensive rats, **89**, 501
- CUNNANE, T.C. *see* ALLCORN, R.J., **89**, 647
- , *see* BEATTIE, D.T., **89**, 235
- CURTIS, M.J. & WALKER, M.J.A. The mechanism of action of the optical enantiomers of verapamil against ischaemia-induced arrhythmias in the conscious rat, **89**, 137

## D

- DANYSZ, W. *see* ARCHER, T., **89**, 277
- DAWSON, S. *see* BARLOW, R.B. **89**, 439
- DE SOUZA, R.J., GOODWIN, G.M., GREEN, A.R. & HEAL, D.J. Effect of chronic treatment with 5-HT<sub>1</sub> agonists (8-OH-DPAT and RU 24969) and antagonist (isapirone) drugs on the behavioural responses of mice to 5-HT<sub>1</sub> and 5-HT<sub>2</sub> agonists, **89**, 377
- DETTMAR, P.W. & LORD, J.A.H. The effect of  $\alpha_2$ -adrenoceptor agonists on the acid secretory responses of rat isolated gastric mucosa to electrical field stimulation, **89**, 361
- DOCHERTY, J.R. & HYLAND, L. An examination of 5-hydroxytryptamine receptors in human saphenous vein, **89**, 77
- DUCHENE-MARULLAZ, P. *see* BOUCHER, M., **89**, 119
- DUNCKER, D.J., HEILIGERS, J., MYLECHARANE, E.J., SAXENA, P.R. & VERDOUW, P.D. Nimodipine-induced changes in the distribution of carotid blood flow and cardiac output in pentobarbitone-anaesthetized pigs, **89**, 35

## E

- ELLIS, P. *see* CRITCHLEY, J.A.J.H., **89**, 831
- ENGLISH, T.A.H., GRISTWOOD, R.W., OWEN, D.A.A. & WALLWORK, J. Impromidine is a partial  $H_2$ -receptor agonist on human ventricular myocardium, **89**, 327
- ESPLUGUES, J. *see* BRAGE, R., **89**, 627
- ESPLUGUES, J.V. *see* BRAGE, R., **89**, 627
- EVANS, R.G. *see* ABRAHAMS, J.M., **89**, 759

## F

- FARMER, S.G., FEDAN, J.S. HAY, D.W.P. & RAEBURN, D. The effects of epithelium removal on the sensitivity of guinea-pig trachealis to bronchodilator drugs, **89**, 407
- FEDAN, J.S. *see* CHIOECKEL, E.W., **89**, 27
- , *see* FARMER, S.G., **89**, 407
- FINET, M. & GODFRAIND, T. Selective inhibition by ethylisopropylamiloride of the positive inotropic effect evoked by low concentrations of ouabain in rat isolated ventricles, **89**, 533

- FONE, K.C.F. & WILSON, H. The effects of alfentanil and selected narcotic analgesics on the rate of action potential discharge of medullary respiratory neurones in anaesthetized rats, **89**, 67  
FONTAINE, J., GRIVEGNEE, A.R. & ROBBERECHT, P. Evidence against VIP as the inhibitory transmitter in non-adrenergic, non-cholinergic nerves supplying the longitudinal muscle of the mouse colon, **89**, 599  
FORREST, M.J., JOSE, P.J. & WILLIAMS, T.J. Kinetics of the generation and action of chemical mediators in zymosan-induced inflammation of the rabbit peritoneal cavity, **89**, 719  
FOSTER, R.W. *see* ALLEN, S.L., **89**, 395  
FOSTER, S.J. *see* AKED, D., **89**, 431  
FRIEND, J. *see* BLACKBURN, T.P., **89**, 593  
FUJIOKA, M. *see* CHEUNG, D.W., **89**, 3

# G

- GARCIA-SEVILLA, J.A. & ZUBIETA, J.K. Activation and desensitization of presynaptic  $\alpha_2$ -adrenoceptors after inhibition of neuronal uptake by anti-depressant drugs in the rat vas deferens, **89**, 673  
GERSKOWITCH, V.P. *see* BLACK, J.W., **89**, 547  
GIACHETTI, A., GIRALDO, E., LADINSKY, H. & MONTAGNA, E. Binding and functional profiles of selective  $M_1$  muscarinic receptor antagonists trihexyphenidyl and dicyclomine, **89**, 83  
GIBB, A.J. & MARSHALL, I.G. Nicotinic antagonists produce differing amounts of tetanic fade in the isolated diaphragm of the rat, **89**, 619  
GIRALDO, E., *see* GIACHETTI, A., **89**, 83  
GODENÈCHE, D. *see* BOURUT, C., **89**, 539  
GODFRAND, T. *see* ALOSACHIE, I., **89**, 525  
—, *see* FINET, M., **89**, 533  
GOODWIN, G.M. *see* DE SOUZA, R.J., **89**, 377  
GOSHIMA, Y., KUBO, T. & MISU, Y. Biphasic actions of L-DOPA on the release of endogenous noradrenaline and dopamine from rat hypothalamus slices, **89**, 229  
GRAHAM, C.A. *see* BALFOUR, D.J.K., **89**, 341  
GREEN, A.R., *see* DE SOUZA, R.J., **89**, 377  
GREENBERG, B. *see* BARNES, P.J., **89**, 157  
GRIMA, M., SCHWARTZ, J., SPACH, M.O. & VELLY, J. Anti-anginal arylalkylamines and sodium channels: [ $^3$ H]-batrachotoxinin-A 20- $\alpha$ -benzoate and [ $^3$ H]-tetracaine binding, **89**, 641  
GRISTWOOD, R.W. *see* ENGLISH, T.A.H., **89**, 327  
GROSZMANN, R.J. *see* CUMMINGS, S.A., **89**, 501  
GULATI, O.D. *see* BHATH, J.D., **89**, 685  
HADHÁZY, P. & MAGYAR, K. Feedback control of arterial smooth muscle tone: the role of prostacyclin, **89**, 853  
HALSEY, M.J., WARDLEY-SMITH, B. & WOOD, S. Pressure reversal of alphaxalone/alphadolone and methohexitone in tadpoles: evidence for different molecular sites for general anaesthesia, **89**, 299  
HARRISON, D.E. *see* ASHCROFT, S.J.H., **89**, 469  
HASHIMOTO, S., TANAKA, C. & TANIYAMA, K. Presynaptic muscarinic and  $\alpha$ -adrenoceptor-mediated regulation of GABA release from myenteric neurones of the guinea-pig small intestine, **89**, 1787

- HATA, F., ISHIDA, H. & KONDO, E. Dopamine-induced amylase secretion from rat parotid salivary gland *in vitro*: an effect mediated via noradrenergic and cholinergic nerves, **89**, 473  
HAY, D.W.P. *see* FARMER, S.G., **89**, 407  
HEAGERTY, A.M., OLLERENSHAW, J.D. & SWALES, J.D. Abnormal vascular photoinositol hydrolysis in the spontaneously hypertensive rat, **89**, 803  
HEAL, D.J. *see* DE SOUZA, R.J., **89**, 377  
HEILIGERS, J. *see* DUNCKER, D.J., **89**, 35  
HENDERSON, C.G. *see* CRITCHLEY, J.A.J.H., **89**, 831  
HERMANSSON, L.-E. & JOHANSSON, P. Postsynaptic  $\alpha_1$ - and  $\alpha_2$ -adrenoceptors in the vascular system of the herring gull, *Larus argentatus*, **89**, 447  
HEHUM, T.D. *see* BARRON, B.A., **89**, 713  
HILEY, C.R., NICHOLS, A.J. & THOMAS, G.R. Interactions between noradrenaline and  $\alpha_2$ -adrenoceptor agonists in the superior mesenteric arterial bed of the rat, **89**, 779  
HODGSON, W.C. *see* BOURA, A.L.A., **89**, 613  
HOLZER, P., HOLZER-PETSCHKE, U. & LEANDER, S. A tachykinin antagonist inhibits gastric emptying and gastrointestinal transit in the rat, **89**, 453  
HOLZER-PETSCHKE, U. *see* HOLZER, P., **89**, 453  
HOWARTH, A. *see* AKED, D., **89**, 431  
HUGHES, B. *see* ALLAN, G., **89**, 183  
HURST, P.R. & PELOW, P.V. Impairment of protein synthesis in the rat uterus following intrauterine delivery of indomethacin, **89**, 199  
HYLAND, L. *see* DOCHERTY, J.R., **89**, 77

# I

- IKEMOTO, Y. *see* ARIMURA, H., **89**, 573  
ISHIDA, H., *see* HATA, F., **89**, 473

# J

- JOHANSSON, P. *see* HERMANSSON, L.-E., **89**, 447  
JOHNS, E.J. & MANITIUS, J. A study in the rat of the renal actions of nitrendipine and diltiazem on the adrenergic regulation of calcium and sodium reabsorption, **89**, 99  
—, An investigation into the  $\alpha$ -adrenoceptor mediating renal nerve-induced calcium reabsorption by rat kidney, **89**, 91  
JOHNSTON, C.I. *see* ABRAHAMS, J.M., **89**, 759  
JONSSON, G. *see* ARCHER, T., **89**, 277  
JOSE, P.J. *see* FORREST, M.J., **89**, 719

# K

- KARAKI, H., KISHIMOTO, T., OZAKI, H., SAKATA, K., UMENO, H. & URAKAWA, N. Inhibition of calcium channels by harmaline and other harmala alkaloids in vascular and intestinal smooth muscles, **89**, 367  
KARAKI, H., NAGASE, H., OZAKI, H., URAKAWA, N. & WEISS, G.B. Effects of calcium channel facilitator, CGP 28, 392, on different modes of contraction in smooth muscle of rabbit and rat aortae and guinea-pig taenia caeci, **89**, 423  
KAUMANN, A.J. *see* CUMMINGS, S.A., **89**, 501

- KAUMANN, A.J. & LOBNIG, B.M. Mode of action of (-)-pindolol on feline and human myocardium, **89**, 207  
 KELLY, S.S., MORGAN, G.P. & SMITH, J.W. The origin of (+)-tubocurarine resistance in dystrophic mice, **89**, 47  
 KING, R.G. *see* BOURA, A.L.A., **89**, 613  
 KIRKPATRICK, K. *see* ALLCORN, R.J., **89**, 647  
 KISHIMOTO, T. *see* KARAKI, H., **89**, 367  
 KITAZAWA, T., KONDO, H. & TEMMA, K.  $\alpha_2$ -Adrenoceptor-mediated contractile response to catecholamines in smooth muscle strips isolated from rainbow trout stomach (*Salmo gairdneri*), **89**, 259  
 KONDO, E. *see* HATA, F., *see* **89**, 473  
 KONDO, H. *see* KITAZAWA, T., **89**, 259  
 KOSTERLITZ, H.W. *see* CORBETT, A.D., **89**, 245  
 KUBO, T. *see* GOSHIMA, Y., **89**, 229  
 KUDO, Y. & OGURA, A. Glutamate-induced increase in intracellular  $\text{Ca}^{2+}$  concentration in isolated hippocampal neurones, **89**, 191

## L

- LADINSKY, H. *see* GIACHETTI, A., **89**, 83  
 LAGENTE, V. *see* BOUKILI, M.A., **89**, 349  
 LARGE, W.A. *see* BRAYDEN, J.E., **89**, 163  
 LARGE, W.A. & SIM, J.A. A comparison between mechanisms of action of different nicotinic blocking agents on rat submandibular ganglia, **89**, 583  
 LEANDER, S. *see* HOLZER, P., **89**, 453  
 LEE-TSANG-TAN, L. *see* ALLAN, G., **89**, 149  
 LEFF, P. *see* BLACK, J.W., **89**, 547  
 LEFF, P., MARTIN, G.R. & MORSE, J.M. The classification of peripheral 5-HT<sub>2</sub>-like receptors using tryptamine agonist and antagonist analogues, **89**, 493  
 LEFORT, J. *see* BOUKILI, M.A., **89**, 349  
 LEIJTEN, P.A.A. & VAN BREEMAN, C., The relationship between noradrenaline-induced contraction and <sup>45</sup>Ca efflux stimulation in rabbit mesenteric artery, **89**, 739  
 LELLOUCH-TUBIANA, A. *see* BOUKILI, M.A., **89**, 349  
 LIVETT, B.G. & MARLEY, P.D. Effects of opioid peptides and morphine on histamine-induced catecholamine secretion from cultured, bovine adrenal chromaffin cells, **89**, 327  
 LOBNIG, B.M. *see* KAUMANN, A.J., **89**, 207  
 LORD, J.A.H. *see* DETTMAR, P.W., **89**, 361  
 LUKE, V.S. *see* ATCHISON, W.D., **89**, 731  
 LYNN, B. *see* BARANOWSKI, R., **89**, 267

## M

- McCAIG, D.J. Electrophysiology of neuroeffector transmission in the isolated, innervated trachea of the guinea-pig, **89**, 793  
 McCORMICK, M.E. *see* AKED, D., **89**, 431  
 MACKENZIE, J.E., MARSHALL, R.J. & PARRATT, J.R. The haemodynamic and metabolic effects of tolmesoxide with special reference to impaired myocardial function, **89**, 313  
 MADELMONT, J.-C. *see* BOURUT, C., **89**, 539  
 MAGYAR, K. *see* HADHÁZY, P., **89**, 853  
 MALANCHÈRE, E. *see* BOUKILI, M.A., **89**, 349

- MANITIUS, J. *see* JOHNS, E.J., **89**, 91  
 —, *see* JOHNS, E.J., **89**, 99  
 MARALT, R. *see* BOURUT, C., **89**, 539  
 MARLEY, P.D. *see* LIVETT, B.G., **89**, 327  
 MARSDEN, C.A. & MARTIN, K.F. Involvement of 5-HT<sub>1A</sub>- and  $\alpha_2$ -receptors in the decreased 5-hydroxytryptamine release and metabolism in rat suprachiasmatic nucleus after intravenous 8-hydroxy-2-(*n*-dipropylamino) tetralin, **89**, 277  
 MARSHALL, I.G. *see* GIBB, A.J., **89**, 619  
 MARSHALL, K. & SENIOR, J. The effect of mepyramine and ranitidine on the oestrogen and anti-oestrogen stimulated rat uterus, **89**, 251  
 MARSHALL, R.J. *see* BARRON, E., **89**, 603  
 —, *see* MACKENZIE, J.E., **89**, 313  
 MARTI-BONMATI, E. *see* BRAGE, R., **89**, 627  
 MARTIN, G.R. *see* LEFF, P., **89**, 493  
 MARTIN, K.F. *see* MARSDEN, C.A., **89**, 277  
 MARTIN, W., MORGAN, R.O., SMITH, J.A. & WHITE, D.G. Atriopeptin II-induced relaxation of rabbit aorta is potentiated by M&B 22, 948 but not blocked by haemoglobin, **89**, 557  
 MARTIN, W., SMITH, J.A. & WHITE, D.G. The mechanisms by which haemoglobin inhibits the relaxation of rabbit aorta induced by nitrovasodilators, nitric oxide, or bovine retractor penis inhibitory factor, **89**, 563  
 MARTORANA, M. *see* BARRON, E., **89**, 603  
 MASAKI, M. & SHINOZAKI, H. A new class of potent centrally acting muscle relaxants: pharmacology of oxazolidinones in rat decerebrate rigidity, **89**, 219  
 MAY, C.N. & PEART, W.S. Stimulation and suppression of renin release from incubations of rat renal cortex by factors affecting calcium flux, **89**, 173  
 MEDEIROS, Y.S. *see* BALLEJO, G., **89**, 515  
 MEYER, D.K. *see* CONZELMANN, U., **89**, 845  
 MEYNIEL, G. *see* BOURUT, C., **89**, 539  
 MIKE, P. *see* CHIDECKEL, E.W., **89**, 27  
 MINOR, B.G. *see* ARCHER, T., **89**, 277  
 MISU, Y. *see* GOSHIMA, Y., **89**, 229  
 MIYAZAKI, M. *see* AKIBA, T., **89**, 703  
 MONTAGNA, E. *see* GIACHETTI, A., **89**, 83  
 MORATINOS, J., OLMEDILLA, B., PABLOS, I. DE & VIGUERAS, M.D.  $\alpha$ -Adrenoceptor involvement in catecholamine-induced hyperglycaemia in conscious fasted rabbits, **89**, 55  
 MORGAN, G.P. *see* ALLEN, S.L., **89**, 395  
 —, *see* KELLY, S.S., **89**, 47  
 MORGAN, R.O. *see* MARTIN, W., **89**, 557  
 MORSE, J.M. *see* LEFF, P., **89**, 493  
 MOUNDANGA, J.L. *see* BOUCHER, M., **89**, 119  
 MUIR, T.C. *see* BEATTIE, D.T., **89**, 235  
 MYLECHARANE, E.J. *see* DUNCKER, D.J., **89**, 35

## N

- NAGASE, H. *see* KARAKI, H., **89**, 423  
 NAKAYA, H. & TOHSE, N. Electrophysiological effects of acetyl glyceryl ether phosphorylcholine on cardiac tissues: comparison with lysophosphatidylcholine and long chain acyl carnitine, **89**, 749  
 NARAHASHI, T. *see* ATCHISON, W.D., **89**, 731  
 NICHOLS, A.J. *see* HILEY, C.R., **89**, 779

# O

- OGURA, A. *see* KUDO, Y., 89, 191  
 OLLERENSHAW, J.D. *see* HEAGERTY, A.M., 89, 803  
 OLLEY, J.E. *see* ABRAHAMS, J.M., 89, 759  
 OWEN, D.A.A. *see* ENGLISH, T.A.H., 89, 327  
 OZAKI, H. *see* KARAKI, H., 89, 367  
 —, *see* KARAKI, H., 89, 423

# P

- PARRATT, J.R. *see* MACKENZIE, J.E., 89, 313  
 PARRATT, J.R., SALEH, S. & WATON, N.G. Feline endotoxin shock: effects on tissue histamine and histidine decarboxylase activity, 89, 635  
 PAY, S. *see* BHOOLA, K.D., 89, 99  
 PEART, W.S. *see* MAY, C.N., 89, 173  
 PEPLOW, P.V. *see* HURST, P.R., 89, 199  
 PHILLIS, J.W. Potentiation of the depression by adenosine of rat cerebral cortical neurones by progestational agents, 89, 693  
 PINI, A. *see* BARANOWSKI, R., 89, 267  
 POJE, M. *see* ASHCROFT, S.J.H. 89, 469  
 POLAK, J.M. *see* BARNES, P.J., 89, 157  
 POST, C. *see* ARCHER, T., 89, 277  
 POTTS, H.C. *see* AKED, D., 89, 431

# Q

- QUINN, M.J. *see* CONOLAN, S., 89, 129

# R

- RAEBURN, D. *see* FARMER, S.G., 89, 407  
 RANCE, M.J. *see* BLACKBURN, T.P., 89, 593  
 RANDO, S. *see* ANTONELLI, T., 89, 853  
 RHODEN, K. *see* BARNES, P.J., 89, 157  
 RICE, W.R. & SINGLETON, F.M. P<sub>2</sub>-purinoceptors regulate surfactant secretion from rat isolated alveolar Type II cells, 89, 485  
 RICHARDS, C.D. & STRUPINSKI, K. An analysis of the action of pentobarbitone on the excitatory postsynaptic potentials and membrane properties of neurones in the guinea-pig olfactory cortex, 89, 321  
 RINGDAHL, B. Dissociation constants and relative efficacies of acetylcholine, (+)- and (–)-methacholine at muscarinic receptors in the guinea-pig ileum, 89, 7  
 ROBERTSON, B. & TAYLOR, W.R. Effects of  $\gamma$ -aminobutyric acid and (–)-baclofen on calcium and potassium currents in cat dorsal root ganglion neurones *in vitro*, 89, 661  
 ROCIC, B. *see* ASHCROFT, S.J.H., 89, 469  
 RODRIHUEZ, C. *see* BRAGE, R., 89, 627

# S

- SAKATA, K. *see* KARAKI, H., 89, 367  
 SALEH, S. *see* PARRATT, J., 89, 635

- SANDSTRÖM, P.-E. Probenecid potentiates the hyperglycaemic effect but reduces the diuretic effect of frusemide in mice, 89, 307  
 SAXENA, P.R. *see* DUNCKER, D.J., 89, 35  
 SCHOLTYSIK, G. & WILLIAMS, F.M. Antiarrhythmic effects of DPI 201–106, 89, 287  
 SCHWARTZ, J. *see* GRIMA, M., 89, 641  
 SENIOR, J. *see* MARSHALL, K., 89, 251  
 SHANKLEY, N.P. *see* BLACK, J.W., 89, 547  
 SHEPHERD, M.K. *see* BARLOW, R.B., 89, 837  
 SHIMIZU, I. & TODA, N. Alterations with age of the response to vasodilator agents in isolated mesenteric arteries of the beagle, 89, 769  
 SHINOZAKI, H. *see* MASAKI, M., 89, 219  
 SIM, J.A. *see* LARGE, W.A., 89, 583  
 SIMONATO, M. *see* ANTONELLI, T., 89, 853  
 SINGLETON, F.M. *see* RICE, W.R., 89, 485P  
 SMALL, R.C. *see* ALLEN, S.L., 89, 395  
 SMITH, J.A. *see* MARTIN, W., 89, 557  
 —, *see* MARTIN, W., 89, 563  
 SMITH, J.W. *see* KELLY, J.W., 89, 47  
 SPACH, M.O. *see* GRIMA, M., 89, 641  
 SPERK, G. *see* CONZELMANN, U., 89, 845  
 STRUPINSKI, K. *see* RICHARDS, C.D., 89, 321  
 SWALES, J.D. *see* HEAGERTY, A.M., 89, 803

# T

- TANAKA, C. *see* HASHIMOTO, S., 89, 787  
 TANGANELLI, S. *see* ANTONELLI, T., 89, 853  
 TANIYAMA, K. *see* HASHIMOTO, S., 89, 787  
 TAYLOR, D.A. *see* CONOLAN, S., 89, 129  
 TAYLOR, S.G. *see* BULLOCK, G.R., 89, 819  
 TAYLOR, W.R. *see* ROBERTSON, B., 89, 661  
 TEMMA, K. *see* KITAZAWA, T., 89, 259  
 THOMAS, G.P. & TRIPATHI, R.M. Effect of  $\alpha$ -adrenoceptor agonists and antagonists on ouabain-induced arrhythmias and cardiac arrest in guinea-pig, 89, 385  
 THOMAS, G.R. *see* HILEY, C.R., 89, 779  
 TODA, N. *see* MIYAZAKI, M., 89, 703  
 TOHSE, N. *see* NAKAYA, H., 89, 749  
 TRIPATHI, R.M. *see* THOMAS, G.P., 89, 385

# U

- UMENO, H. *see* KARAKI, H., 89, 367  
 URAKAWA, N. *see* KARAKI, H., 89, 367  
 —, *see* KARAKI, H., 89, 423

# V

- VACCARI, A. High affinity binding of [<sup>3</sup>H]-tyramine in the central nervous system, 89, 15  
 VALE, A.L. *see* BALFOUR, D.J.K., 89, 341  
 VAN BREEMAN, C. *see* LEIJTEN, P.A.A., 89, 739  
 VAN WAY, C.W. *see* ALLAN, G., 89, 149  
 VARGAFTIG, B.B. *see* BOUKILI, M.A., 89, 349  
 VELLY, J. *see* GRIMA, M., 89, 641  
 VERDOUW, P.D. *see* DUNCKER, D.J., 89, 35  
 VOGEL, S.M. *see* ATCHISON, W.D., 89, 731

## W

- WALKER, M.J.A. *see* CURTIS, M.J., **89**, 137  
 WALLACE, J.L. & WHITTLE, B.J.R. Effects of inhibitors of arachidonic acid metabolism on Paf-induced gastric mucosal necrosis and haemoconcentration, **89**, 415  
 WALLWORK, J. *see* ENGLISH, T.A.H., **89**, 335  
 WARDLEY-SMITH, B. *see* HALSEY, M.J., **89**, 299  
 WATON, N.G. *see* PARRATT, J.R., **89**, 635  
 WEISS, G.B. *see* KARAKI, H., **89**, 423  
 WESTON, A.H. *see* BULLOCK, G.R., **89**, 819  
 WHITE, D.G. *see* MARTIN, W., **89**, 557  
 —, *see* MARTIN, W., **89**, 563  
 WHITING, M.V. *see* ALLAN, G., **89**, 149  
 WHITTLE, B.J.R. *see* WALLACE, J.L., **89**, 415

- WILLIAMS, F.M. *see* SCHOLTYSIK, G., **89**, 287  
 WILLIAMS, T.J. *see* FORREST, M.J., **89**, 719  
 WILSON, H. *see* FONE, K.C.F., **89**, 67  
 WOOD, S. *see* HALSEY, M.J., **89**, 299  
 WOODS, K.L. *see* ANDREWS, P.L.R., **89**, 453

## Y

- YOUNG, J.M. *see* CARSWELL, H., **89**, 809

## Z

- ZUBIETA, J.K. *see* GARCIA-SEVILLA, J.A., **89**, 673

# SUBJECT INDEX

## A

- Acetyl glyceryl ether phosphorylcholine**, electrophysiological effects on cardiac tissues, **89**, 749
- Acetylcholine**, dissociation constants and relative efficacy at muscarinic receptors in guinea-pig ileum, **89**, 7
- , effect of morphine withdrawal on guinea-pig cerebral cortex release of, **89**, 853
  - , effect on action of BRL34915 on guinea-pig isolated trachealis, **89**, 395
  - , effect on GABA release from guinea-pig isolated small intestine, **89**, 787
  - , induction of relaxations in rubbed and intact aorta, influence of vascular endothelium, **89**, 819
  - , responses of dog isolated mesenteric arteries, effect of aging, **89**, 769
- Acetylsalicylic acid**, effect on induction of gastric mucosal necrosis and haemoconcentration by Paf in rats, **89**, 415
- Action potential conduction**, effects of calcium channel antagonists in guinea-pig vas deferens, **89**, 235
- Action potentials**, effect of locally applied capsaicin in cutaneous nerves of four mammalian species, **89**, 267
- Adenine nucleotide pool**, myocardial, effect of allopurinol in anaesthetized, open chest dogs, **89**, 149
- Adenosine**, effect of epithelium removal on sensitivity of guinea-pig isolated trachealis, **89**, 407
- , responses of dog isolated mesenteric arteries, effect of aging, **89**, 769
- Adenosine diphosphate**, stimulation of surfactant secretion in isolated alveolar Type II cells, **89**, 485
- Adenosine triphosphate**, stimulation of surfactant secretion in isolated alveolar type II cells, **89**, 485
- Adrenal chromaffin cells**, bovine, effects of opioid peptides and morphine on histamine-induced catecholamine secretion, **89**, 327
- Adrenal demullation**, effect on  $\kappa$ -opioid-induced diuresis in rats, **89**, 593
- Adrenal gland**, bovine, muscarinic modulation of release of [Met<sup>5</sup>]enkephalin immunoreactive material and catecholamines, **89**, 713
- Adrenal medulla**, bovine, effects of opioid peptides and morphine on histamine-induced catecholamine secretion from chromaffin cells, **89**, 327
- , dog, muscarinic and nicotinic mechanism in response to reflex stimuli and to cholinomimetic drugs, **89**, 831
- Adrenaline**, positive inotropic effects, antagonism of (–)-pindolol in kitten and man, **89**, 207
- $\alpha$ -Adrenoceptor agonists**, effect on ouabain-induced arrhythmias and cardiac arrest in guinea-pig, **89**, 385
- $\alpha_2$ -Adrenoceptor agonists**, on the acid secretory responses of rat isolated mucosa to electrical field stimulation, **89**, 361
- $\alpha$ -Adrenoceptor antagonists**, action in rat isolated aorta, modulation by endothelium, **89**, 525
- , effect on ouabain-induced arrhythmias and cardiac arrest in guinea-pig, **89**, 385
- $\beta$ -Adrenoceptor antagonists**, studies of actions of stereoisomers in conscious atrio-ventricular blocked dogs, **89**, 119
- $\alpha$ -Adrenoceptor subtypes**, mediation of renal nerve-induced calcium reabsorption by the rat kidney, **89**, 91
- $\alpha$ -Adrenoceptors**, involvement in catecholamine-induced hyperglycaemia in conscious fasted rabbits, **89**, 55
- , postsynaptic, studies in vascular system of the herring gull, *Larus argentatus*, **89**, 447
  - , presynaptic, mediation of regulation of GABA release from myenteric neurones of the guinea-pig small intestine, **89**, 787
  - , role in antiarrhythmic effects of calmodulin antagonists, **89**, 603
- $\alpha_2$ -Adrenoceptors**, involvement in decreased 5-HT release and metabolism in rat suprachiasmatic nucleus after intravenous 8-hydroxy-2- (n-dipropyl-amino)tetralin, **89**, 277
- , mediation of contractile response to catecholamines in smooth muscle strips isolated from rainbow trout stomach, **89**, 259
  - , presynaptic, activation and desensitization after inhibition of neuronal uptake by antidepressant drugs in rat vas deferens, **89**, 673
- $\beta$ -Adrenoceptors**, affinity of pindolol in feline and human heart, **89**, 207
- , presynaptic facilitatory, role in biphasic actions of L-DOPA on release of NA and dopamine from rat hypothalamic slices, **89**, 229
- AFDX-116**, selective muscarinic M<sub>2</sub> activity in guinea-pig atria and ileum, **89**, 837
- Affinity constants**, selective antagonists for M<sub>2</sub> muscarinic receptors, **89**, 837
- Aging**, effect on the response of isolated mesenteric arteries of the beagle to vasodilator agents, **89**, 769
- AH23848**, inhibition of pressor responses to arachidonic acid in alloxan-treated diabetic rats, **89**, 613
- Alfentanil**, effects on the rate of action potential discharge of medullary respiratory neurones in anaesthetized rats, **89**, 67
- Allopurinol**, protective action in an experimental model of haemorrhagic shock and reperfusion, **89**, 149
- Alloxan**, treatment of diabetic rats, changes in sensitivity to arachidonic acid, **89**, 613
- Alloxan-like compounds**, derived from uric acid, structure-activity relationships, **89**, 469
- Alphaxolone/alphadolone**, effects of high pressure on anaesthetic potency, **89**, 299
- Alveolar Type II cells**, rat isolated, P<sub>2</sub>-purinoceptor regulation of surfactant secretion, **89**, 485



- $\gamma$ -Aminobutyric acid**, effect of morphine withdrawal on outflow in guinea-pig cerebral cortex, **89**, 853
- , effect on calcium and potassium currents in cat dorsal root ganglion neurones *in vitro*, **89**, 647
- , effect of cholinomimetic and sympathomimetic drugs on release from isolated small intestine of guinea-pigs, **89**, 787
- $\gamma$ -Aminobutyric acid receptors**, stimulation modulates the release of cholecystokinin-like immunoreactivity from slices of rat neostriatum, **89**, 845
- p*-Aminoclonidine**, effect on acid secretory responses of rat isolated gastric mucosa to electrical field stimulation, **89**, 361
- Aminophylline**, effect on vasodilator actions of TRH-100 in dog arteries, **89**, 703
- 4-Aminopyrine**, effect on the action of BRL34915 on guinea-pig isolated trachealis, **89**, 395
- Amlodipine**, effects on action potential conduction and transmitter release in guinea-pig vas deferens, **89**, 235
- Amylase**, dopamine-induced secretion from rat parotid salivary gland, **89**, 473
- Anaesthesia**, molecular sites of action for different general anaesthetics, **89**, 299
- Analgesia**, 5-methoxy-*N,N*-dimethyltryptamine-induced analgesia is blocked by  $\alpha$ -adrenoceptor antagonists in rats, **89**, 293
- Angiotensin II**, induction of contractions in rubbed and intact tissues of rat aorta, influence of vascular endothelium, **89**, 819
- , inhibition of renin secretion from incubations of rat renal cortex in the presence of external  $\text{Ca}^{2+}$ , **89**, 173
- Anti-anginal drugs**, effect on [ $^3\text{H}$ ]-batrachotoxinin-A 20- $\alpha$ -benzoate and [ $^3\text{H}$ ]-tetracaine binding for study of sodium channels, **89**, 641
- Antiarrhythmic activity**, DPI 201–106 in cats, **89**, 277
- Anticalciuresis**, induction by low frequency renal nerve stimulation, **89**, 91
- Antidepressant drugs**, inhibition of neuronal uptake, effect on presynaptic  $\alpha_2$ -adrenoceptors in rat vas deferens, **89**, 673
- Anti-oestrogen**, stimulation of rat uterus, effect of antihistamines, **89**, 251
- Aorta**, rabbit, atriopeptin II-induced relaxation, mediation by M&B 22948 but lack of blockade by haemoglobin, **89**, 557
- , rabbit, classification of 5-HT $_2$ -like receptors using tryptamine agonist and antagonist analogues, **89**, 493
- , rabbit, haemoglobin inhibition of relaxation induced by nitrovasodilators, nitric oxide or bovine retractor penis inhibitory factor, **89**, 563
- , rabbit, inhibition of calcium channels by harmaline and other harmala alkaloids in smooth muscle, **89**, 367
- , rabbit and rat, effects of CGP 28,392 on different modes of contraction in smooth muscle, **89**, 423
- , rat isolated, role of cyclic GMP in the modulation by endothelium of the adrenolytic action of prazosin, **89**, 525
- Apamin**, effect on the action of BRL34915 on guinea-pig isolated trachealis, **89**, 395
- Aplysia neurones**, action of enflurane on cholinergic transmission, **89**, 573
- Arachidonic acid**, cardiovascular effects in alloxan-treated diabetic rats, **89**, 613
- , induction of inflammation by topical application to rabbit skin, **89**, 431
- Arachidonic acid cascade**, involvement in pharmacological modulation of the effects of *N*-formyl-L-methionyl-L-leucyl-L-phenylalanine in guinea-pigs, **89**, 349
- Arginine vasopressin**, effect of M320 on plasma levels in rats, **89**, 759
- Arrhythmias**, comparative effects of calmodulin antagonists, **89**, 603
- , ischaemia-induced in conscious rat, mechanism of action of optical enantiomers of verapamil, **89**, 137
- , ouabain-induced in guinea-pigs, effect of  $\alpha$ -adrenoceptor agonists and antagonists, **89**, 385
- Arterial tone**, modulation by prostacyclin in rabbit, **89**, 861
- Arteriovenous anastomoses**, effect of nimodipine on carotid arterial blood flow in pentobarbitone-anaesthetized pigs, **89**, 35
- Arylalkylamines**, inhibition of ligand binding for study of sodium channels, **89**, 641
- Arylazido aminopropionyl adenosine triphosphate**, inhibition of excitatory junction potentials in guinea-pig saphenous artery, **89**, 3
- Aspirin**, effects on the action of *N*-formyl-L-methionyl-L-leucyl-L-phenylalanine in guinea-pig, **89**, 349
- Atracurium**, production of tetanic fade in rat isolated diaphragm, **89**, 619
- Atria**, feline, mode of action of (–)-pindolol, **89**, 207
- , guinea-pig, search for selective antagonists at M $_2$  muscarinic receptors, **89**, 837
- , guinea-pig, selectivity of isomers of hyoscine methiodide and hyoscamine camphorsulphonate for muscarinic M $_2$  acetylcholine receptors, **89**, 439
- Atrial natriuretic peptide**, induction of relaxation in rabbit aorta, effects of M&B 22,948 or haemoglobin, **89**, 557
- Atrial rate**, effects of  $\beta$ -adrenoceptor antagonist stereoisomers in conscious atrio-ventricular blocked dogs, **89**, 119
- Atriopeptin II**, induction of relaxation in rabbit aorta, effects of M&B 22,948 or haemoglobin, **89**, 557
- Atrio-ventricular blockade**, studies on the effects of  $\beta$ -adrenoceptor antagonists in conscious dogs, **89**, 119
- Atropine**, binding and functional profiles, **89**, 83
- , effect on ACh and GABA outflow from cerebral cortex of morphine-dependent guinea-pigs, **89**, 853
- , effect on baclofen-stimulated gastric motility and secretion in the rat, **89**, 461
- , effect on release of NA and [Met $^5$ ] enkephalin-immunoreactive material from bovine adrenal gland, **89**, 713
- , effect on vasodilator actions of TRK-100 in dog arteries, **89**, 703
- , lack of effect on catecholamine-induced contractions in smooth muscle from rainbow trout stomach, **89**, 259
- , reduction of dopamine-induced amylase secretion from rat parotid salivary gland, **89**, 473
- Autonomic nervous system**, electrophysiology of neuroeffector transmission in the isolated, innervated trachea of the guinea-pig, **89**, 793
- Autoradiography**, investigation of role of vasoactive intestinal peptide in control of bovine pulmonary vascular tone, **89**, 157

## B

- (-)-**Baclofen**, effect on calcium and potassium currents in cat dorsal root ganglion neurones *in vitro*, **89**, 661
- , effect on release of cholecystokinin-like immunoreactivity from slices of rat neostriatum, **89**, 845
- , stimulation of gastric motility and secretion via central action in the rat, **89**, 461
- [<sup>3</sup>H]-**batrachotoxin-A 20- $\alpha$ -benzoate binding**, effects of anti-anginal arylalkylamines in rat synaptosomal preparations and heart membrane preparations, **89**, 641
- Bay K 8644**, effect on harmaline-induced inhibition of calcium channels in vascular and intestinal smooth muscle, **89**, 367
- , inhibition of renin secretion from rat renal cortex, dependence on extracellular Ca<sup>2+</sup> concentrations **89**, 173
- Behaviour**, measurement of responses to nicotine in rats with selective lesion of 5-hydroxytryptaminergic fibres innervating hippocampus, **89**, 341
- Behavioural responses**, correlation with ACh release and GABA efflux during morphine withdrawal in the guinea-pig, **89**, 853
- N-benzyl-5-methoxytryptamine**, classification of peripheral 5-HT<sub>2</sub>-like receptors in rabbit aorta and rat jugular vein, **89**, 493
- l-Benzylimidazole**, effect on induction of gastric mucosal necrosis and haemoconcentration by Paf in rats, **89**, 415
- Bepridil**, antiarrhythmic and electrophysiological effects, **89**, 603
- Betahistine**, mediation of breakdown of inositol phospholipid in guinea-pig brain, regional variation, **89**, 809
- Bicuculline**, effect on release of cholecystokinin-like immunoreactivity from slices of rat neostriatum, **89**, 845
- Blood flow**, regional, effect of nimodipine in pentobarbitone-anaesthetized pigs, **89**, 35
- Blood pressure**, changes in effects of arachidonic acid in alloxan-treated diabetic rats, **89**, 613
- , effects on, of tolmesoxide in dogs, **89**, 313
- , effect of verapamil stereoisomers in conscious rats, **89**, 137
- , *in vivo* and *in vitro* activity of selective 5-HT<sub>2</sub> receptor antagonists in rats, **89**, 129
- Bovine retractor penis inhibitory factor**, induction of relaxation of rabbit aorta, mechanism of haemoglobin inhibition, **89**, 563
- BN 52021**, effects on the action of *N*-formyl-L-methionyl-L-leucyl-L-phenylalanine in guinea-pig, **89**, 349
- Bradycardia**, effects of  $\beta$ -adrenoceptor antagonist stereoisomers in atrio-ventricular blocked dogs, **89**, 119
- Brattleboro rats**, effects of M320 on urine excretion, **89**, 759
- Bremazocine**, agonist and antagonist activity at opioid receptors in guinea-pig myenteric plexus, **89**, 245
- , effect on adenylate cyclase activity in rat striatum and vas deferens, **89**, 109
- Brevetoxin-B**, action on giant axon of the squid and frog and rat neuromuscular junctions, **89**, 731
- BRL34915**, electrical and mechanical effects in guinea-pig isolated trachealis, **89**, 395
- p-Bromobenzyl oxyamine** see NSD-1055
- Bronchoconstriction**, induced by *N*-formyl-L-methionyl-L-leucyl-L-phenylalanine in guinea-pig, pharmacological modulation, **89**, 349

- Bronchodilator drugs**, sensitivity of guinea-pig trachealis, effect of epithelium removal, **89**, 407
- [<sup>3</sup>H]-**buprenolol**, competition with (-)-pindolol for  $\beta$ -adrenoceptors of human ventricle, **89**, 207
- Butaclamol**, inhibition of dopamine-induced amylase secretion from rat parotid salivary gland, **89**, 473
- BW12C**, effect on myocardial function in the erythrocyte-perfused rabbit heart *in vitro* and myocardial infarct size in the dog, **89**, 183
- BW755C**, effect on Paf-induced gastric mucosal necrosis and haemoconcentration in the rat, **89**, 415
- , effects on the action of *N*-formyl-L-methionyl-L-leucyl-L-phenylalanine in guinea-pig, **89**, 349

## C

- C5a**, kinetics of generation and action in zymosan-induced inflammation of the rabbit peritoneal cavity, **89**, 719
- C5a des Arg**, kinetics of generation and action in zymosan-induced inflammation of the rabbit peritoneal cavity, **89**, 719
- Calcium**, effect of external concentrations on the stimulation and suppression of renin release from incubations of rat renal cortex, **89**, 173
- , effect of extracellular concentrations on histamine-induced catecholamine secretion in cultured, bovine adrenal chromaffin cells, **89**, 327
- , effect of raised external concentrations on harmaline-induced inhibition of calcium channel vascular and intestinal smooth muscle, **89**, 367
- , glutamate-induced increase of intracellular concentrations in isolated hippocampal neurones, **89**, 191
- , induction of contractions in human pregnant myometrium, effect of calcium entry blockers, **89**, 515
- , renal nerve-induced reabsorption by rat kidney, mediation by  $\alpha$ -adrenoceptor, **89**, 91
- , role in K<sup>+</sup>-induced relaxation of guinea-pig isolated trachealis, **89**, 27
- , study of the renal actions of nitrendipine and diltiazem on the adrenergic regulation of reabsorption, **89**, 99
- <sup>45</sup>**Calcium**, relationship between efflux stimulation and NA-induced contraction in rabbit mesenteric artery, **89**, 739
- Calcium antagonism**, in ischaemic ventricular myocardium is antiarrhythmic, **89**, 137
- Calcium channel antagonists**, effects on action potential conduction and transmitter release in guinea-pig vas deferens, **89**, 235
- , effect on gastric emptying and acid secretion of the rat *in vivo*, **89**, 627
- Calcium channels**, activation by CGP 28,392 in rabbit and rat aortae and guinea-pig taenia caeci, **89**, 423
- , inhibition by harmaline and other harmful alkaloids in vascular and intestinal smooth muscles, **89**, 367
- Calcium currents**, cat dorsal root ganglion neurones *in vitro*, effects of GABA and (-)-baclofen, **89**, 661
- Calcium entry antagonists**, effect on human pregnant myometrium contractility, **89**, 515
- Calmodulin**, involvement in spontaneous contractions of human pregnant myometrium, **89**, 515
- Calmodulin antagonists**, comparative antiarrhythmic and electrophysiological effects, **89**, 603

- Capsaicin**, effects of local application on conduction in cutaneous nerves in rat, rabbit, guinea-pig and ferret, **89**, 267
- Cardiac arrest**, ouabain-induced in guinea-pigs, effect of  $\alpha$ -adrenoceptor agonists and antagonists, **89**, 385
- Cardiac output**, effect of nimodipine in pentobarbitone-anaesthetized pigs, **89**, 35
- Cardiotonic agents**, local antiarrhythmic and local anaesthetic activity, **89**, 277
- Cardiotoxicity**, ouabain-induced in guinea-pigs, **89**, 385
- Cardiovascular system**, herring gull, studies of the postsynaptic  $\alpha$ -adrenoceptors, **89**, 447
- Carotid blood flow**, effect of nimodipine on distribution in pentobarbitone-anaesthetized pigs, **89**, 35
- Carteolol**, effect on NA-induced contractions in smooth muscle of rainbow trout stomach, **89**, 259
- Catecholamines**, extraneuronal uptake in epithelium of guinea-pig isolated trachealis, **89**, 407
- , histamine-induced secretion from cultured, bovine adrenal chromaffin cells, effects of opioid peptides and morphine, **89**, 327
- , induction of contractions in smooth muscle from rainbow trout stomach, mediation by  $\alpha_2$ -adrenoceptors, **89**, 259
- , muscarinic receptor modulation of release from the bovine adrenal gland, **89**, 713
- $\beta$ -Cell destruction**, relevance of alloxan-like compounds derived from uric acid, **89**, 469
- Cerebral artery**, dog, vasodilator actions of TRK-100, **89**, 703
- Cerebral cortex**, rat, potentiation of the neuronal depression by adenosine by progestational agents, **89**, 693
- CGP 28,392**, effects on different modes of contraction in smooth muscle of rabbit and rat aorta and guinea-pig taenia caecum, **89**, 423
- Chemical mediators**, kinetics of generation and action in zymosan-induced inflammation of the rabbit peritoneal cavity, **89**, 719
- Cholecystokinin-like immunoreactivity**, release from rat neostriatum after stimulation of GABA receptors, **89**, 845
- Cholinergic nerves**, mediation of dopamine-induced amylase secretion from rat parotid salivary gland, **89**, 473
- Cholinergic transmission**, in identified *Aplysia* neurones, action of enflurane, **89**, 573
- Cholinergic vasodilatation**, electrophysiological analysis in the isolated lingual artery of the rabbit, **89**, 163
- Cholinomimetic drugs**, muscarinic and nicotinic mechanisms in the responses of the dog adrenal medulla, **89**, 831
- $\beta$ -Chlornaltrexamine**, effect of pretreatment on the action of brexacozone on opioid receptors in guinea-pig myenteric plexus, **89**, 245
- 2-Chloroethyl nitrosocarbamoylcystamine**, cytostatic action, **89**, 539
- Chlorpromazine**, effect on human pregnant myometrium contractility, **89**, 515
- Chronotropic effects**, of pindolol in feline atria, **89**, 207
- Cimetidine**, effect on vasodilator actions of TRK-100 in dog arteries, **89**, 703
- Cinnarizine**, effect on gastric emptying and acid secretion in the rat *in vivo*, **89**, 627
- , effect on human pregnant myometrium contractility, **89**, 515
- Clonidine**, effect on acid secretory responses of rat isolated gastric mucosa to electrical field stimulation, **89**, 361
- , effect on GABA release from guinea-pig isolated small intestine, **89**, 787
- , effect on ouabain-induced arrhythmias and cardiac arrest in guinea-pigs, **89**, 385
- , induction of diuresis in rats, effect of demedullation, **89**, 593
- , induction of dose-dependent increases in arterial blood pressure in herring gull, **89**, 477
- , inhibition of contractile response to NA or adrenaline in smooth muscle of rainbow trout stomach, **89**, 259
- , interactions with noradrenaline vasoconstrictor responses in rat superior mesenteric arterial bed, **89**, 779
- Co-transmission**, noradrenaline and adenosine triphosphate in sympathetic nerves of rodent vas deferens, **89**, 647
- Cobalt**, effects on action potential conduction and transmitter release in guinea-pig vas deferens, **89**, 235
- Colon**, mouse, evidence against VIP as the inhibitory transmitter in non-adrenergic, non-cholinergic nerves supplying longitudinal muscle, **89**, 599
- Competitive antagonism**, analysis when this property occurs as part of a pharmacological resultant, **89**, 547
- Concentration-ratio analysis**, detection and quantification of competitive analysis, **89**, 547
- Contractions**, agonist-induced in rat aorta, influence of vascular endothelium, **89**, 819
- , catecholamine-induced in smooth muscle from rainbow trout stomach, mediation by  $\alpha_2$ -adrenoceptors, **89**, 259
- , Na-induced, relationship with  $^{45}\text{Ca}$  efflux stimulation in rabbit mesenteric artery, **89**, 739
- Corpus striatum**, rat, high affinity binding of [ $^3\text{H}$ ]-tyramine, **89**, 15
- Corticosteroids**, effect on Paf-induced gastric mucosal necrosis and haemoconcentration, **89**, 415
- Corticosterone**, effect of nicotine on plasma concentrations in rats with selective lesions to 5-hydroxytryptaminergic fibres innervating hippocampus, **89**, 341
- , effect on sensitivity of guinea-pig isolated trachealis to bronchodilator drugs, **89**, 407
- 5-Cyanotryptamine**, classification of 5-HT $_2$ -like receptors in rabbit aorta and rat jugular vein, **89**, 493
- Cyclo-oxygenase inhibitors**, effect on arachidonic acid-induced plasma extravasation in rabbit skin, **89**, 431
- N-(Cyclopropylmethyl)-19-isopentyl-norovrinol** *see* M320
- Cyproterone**, effect on adenosine-evoked depression of the firing of rat cerebral cortical neurones, **89**, 693
- Cytostatic activity**, induced by nitrosoureas derived from cysteamine, **89**, 539

## D

- Decamethonium**, action on rat submandibular ganglia, **89**, 583
- Decerebrate rigidity**, reduction by oxazolidinones in the rat, **89**, 219
- Depolarization**, induced by T-17 and brevetoxin-B of nerve membrane of giant axon of the squid and neuromuscular junctions of frog and rat, **89**, 731
- Dexamethasone**, effect on Paf-induced gastric mucosal necrosis and haemoconcentration in the rat, **89**, 415
- Diabetes**, role of alloxan-like compounds derived from uric acid, **89**, 469

- Diabetes mellitus**, induction by frusemide in mice, 89, 307
- Diabetogenic activity**, of alloxan-like compounds derived from uric acid, 89, 469
- 3,4-Diaminopyridine**, effect on tetanic fade produced by nicotinic antagonists in rat isolated diaphragm, 89, 619
- Diaphragm**, rat isolated, production of tetanic fade by nicotinic antagonists, 89, 619
- Diazepam**, effect on ACh and GABA outflow from cerebral cortex of morphine-dependent guinea-pigs, 89, 853
- Dicyclomine**, binding and functional profiles, 89, 83
- Digestive tract**, rat, tachykinin antagonist inhibition of gastric emptying and gastrointestinal transit, 89, 453
- L-Dihydroxyphenyl acetic acid**, biphasic action on the release of endogenous NA and dopamine from rat hypothalamus slices, 89, 229
- 5, 7-Dihydroxytryptamine**, induction of lesions of 5-hydroxytryptaminergic fibres innervating rat hippocampus, effect on responses to nicotine, 89, 341
- Diltiazem**, effects on action potential conduction and transmitter release in guinea-pig vas deferens, 89, 235
- , effect on gastric emptying and acid secretion in the rat *in vivo*, 89, 627
- , effect on tetrodotoxin-sensitive, K<sup>+</sup>-induced relaxation of guinea-pig trachealis, 89, 27
- , effect on the adrenergic regulation of calcium and sodium reabsorption in the rat, 89, 99
- N<sup>a</sup>, N<sup>a</sup>-dimethylhistamine**, mediation of breakdown of inositol phospholipids in guinea-pig brain, regional variations, 89, 809
- $\alpha$ ,  $\alpha$ -Dimethyltryptamine**, classification of 5-HT<sub>2</sub>-like receptors in rabbit aorta and rat jugular vein, 89, 493
- N, N-dimethyltryptamine**, classification of peripheral 5-HT<sub>2</sub>-like receptors in rabbit aorta and rat jugular vein, 89, 493
- 4-Diphenylacetoxy-N-methylpiperidine methobromide analogues**, selective muscarinic M<sub>2</sub> antagonist activity, 89, 837
- Diphloretin phosphate**, effect on vasodilator actions of TRK-100 in dog arteries, 89, 703
- Diprenorphine**, effect on histamine-induced catecholamine secretion from cultured, bovine adrenal chromaffin cells, 89, 327
- Diuresis**, frusemide-induced, effect of probenecid in mice, 89, 307
- , induction by M320 in rats, 89, 759
- ,  $\kappa$ -opioid-induced in rats, 89, 593
- Dopamine**, biphasic action of L-DOPA on the release from rat hypothalamus slices, 89, 229
- , induction of amylase secretion from rat parotid salivary gland, 89, 473
- Dopamine receptors**, presynaptic inhibitory, role in biphasic actions of L-DOPA on release of NA and dopamine from rat hypothalamus, 89, 229
- Dopamine system**, involvement in high affinity binding of [<sup>3</sup>H]-tyramine in rat central nervous system, 89, 15
- Dorsal root ganglion neurones**, effects of GABA and (–)-baclofen on calcium and potassium currents, 89, 661
- DPI 201-106**, antiarrhythmic and local anaesthetic effects, 89, 277
- Dynorphin**, effect on histamine-induced catecholamine secretion from cultured, bovine adrenal chromaffin cells, 89, 327
- Dystrophy**, tubocurarine resistance of extensor digitorum longus muscles of mice, 89, 47

## E

- Electrical effects**, BRL34915-induced in guinea-pig isolated trachealis, 89, 395
- Electrophysiology**, comparative effects of calmodulin antagonists, 89, 603
- , comparison of the effects of acetyl glyceryl ether phosphorylcholine, lysophosphatidylcholine and long chain acyl carnitine on cardiac tissues, 89, 749
- , measurements of electrical and mechanical effects of BRL34915 in guinea-pig isolated trachealis, 89, 395
- , neuroeffector transmission in the isolated, innervated trachea of the guinea-pig, 89, 793
- Elevated X maze**, effects of nicotine and selective lesions of 5-hydroxytryptaminergic fibres innervating rat hippocampus on spontaneous behaviour, 89, 341
- $\beta$ -Endorphin**, effect on adenylate cyclase activity in rat striatum and vas deferens, 89, 109
- Endothelium**, effect on removal on ACh-induced relaxations in dog mesenteric arteries, 89, 769
- , modulation of adrenergic action of prazosin in the rat isolated aorta, role of cyclic GMP, 89, 525
- , vascular, influence of agonist-induced contractions and relaxations in rat aorta, 89, 819
- Endotoxin shock**, effect on tissue histamine and histidine decarboxylase activity in cats, 89, 635
- Endplate potentials**, effects of T-17 and brevetoxin-B on giant axon of the squid and neuromuscular junctions of frog and rat, 89, 731
- Enflurane**, action on cholinergic transmission in identified *Aplysia* neurones, 89, 573
- Enkephalin**, [D-Ala<sup>2</sup>-D-Leu<sup>5</sup>], effect on adenylate cyclase activity in rat striatum and vas deferens, 89, 109
- , [Met<sup>5</sup>], muscarinic receptor modulation of release of immunoreactive material from the bovine adrenal gland, 89, 713
- Epithelium**, effect of removal on the sensitivity of guinea-pig isolated trachealis to bronchodilator drugs, 89, 407
- Erabutoxin b**, production of tetanic fade in rat isolated diaphragm, 89, 619
- Ethinyl oestradiol**, induction of hypertension in rats, 89, 685
- Ethylenediamine tetra-acetic acid**, effect on renin secretion in rat renal cortex, 89, 173
- Ethyleneglycol-bis-( $\beta$ -amino-ethyl ether) N,N-tetra-acetic acid**, effect on renin secretion in rat renal cortex, 89, 173
- Ethylisopropylamiloride**, selective inhibition of positive inotropic effect evoked by low concentrations of ouabain in rat isolated ventricles, 89, 533
- Ethylketocyclazocine**, induction of diuresis in rats, effect of demullation, 89, 593
- Excitatory junction potentials**, inhibition in guinea-pig saphenous artery by arylazido aminopropionyl adenosine triphosphate, 89, 3
- Excitatory postsynaptic potentials**, effects of pentobarbitone in neurones of guinea-pig olfactory cortex, 89, 321

## F

- Fenoterol**, effect on human pregnant myometrium contractility, 89, 515
- Fentanyl**, effects on adenylate cyclase activity in rat striatum and vas deferens, 89, 109

- , effects on the rate of action potential discharge of medullary respiratory neurones in anaesthetized rats, **89**, 67
- N-formyl-L-methionyl-L-leucyl-L-phenylalanine**, effects in guinea-pig, pharmacological modulation, **89**, 349
- FPL 55712**, effects on the action of *N*-formyl-L-methionyl-L-leucyl-L-phenylalanine in guinea-pig, **89**, 349
- Frusemide**, hyperglycaemic and diuretic effects, action of probenecid in mice, **89**, 307
- , induction of diuresis, effect of demedullation in rats, **89**, 593
- $\beta$ -Funaltrexamine**, effect of pretreatment on the action of brexazocine on opioid receptors in guinea-pig myenteric plexus, **89**, 245

## G

- Gastric acid**, effect of  $\alpha_2$ -adrenoceptor agonists on secretion in response to electrical field stimulation, **89**, 361
- , effects of calcium channel blockers on secretion in rat *in vivo*, **89**, 627
- Gastric emptying**, effects of calcium channel blocking drugs in rat *in vivo*, **89**, 627
- , inhibition by tachykinin antagonists in the rat, **89**, 453P
- Gastric motility**, stimulation by systemic baclofen via central action in the rat, **89**, 461
- Gastric mucosa**, rat, acid secretory responses to electrical field stimulation, **89**, 361
- , induction of necrosis by platelet activating factor in rats, **89**, 415
- Gastric secretion**, stimulation by systemic baclofen via central action in the rat, **89**, 461
- Gastrointestinal transit**, inhibition by tachykinin antagonists in the rat, **89**, 453P
- Glutamate**, induction of excitation of rat cortical neurones, effect of oxazolindiones, **89**, 219
- , induction of increase in intracellular  $\text{Ca}^{2+}$  concentration in isolated hippocampal neurones, **89**, 191
- Glycerol trinitrate**, vasodilator actions in rabbit aorta, mechanisms of haemoglobin inhibition, **89**, 563
- Glycogen**, effect of intravenous infusion of phenylephrine in conscious fasted rabbits on liver levels, **89**, 55
- Guanfacine**, interactions with noradrenaline vasoconstrictor response in rat superior mesenteric arterial bed, **89**, 779
- Guanosine 3', 5' monophosphate**, cyclic, effect of ACh on concentrations in rubbed tissues of rat aorta, **89**, 819
- , cyclic, rabbit aorta content after atriopeptin II, effect of M&B 22, 948 or haemoglobin, **89**, 557
- , cyclic, role in the modulation by endothelium of the adrenolytic action of prazosin in the rat isolated aorta, **89**, 525
- Guanosine triphosphate**, role in opioid inhibition of adenylate cyclase in rat striatum and vas deferens, **89**, 109

## H

- Haemoconcentration**, induction in rats by platelet activating factor, **89**, 415
- Haemodynamic effects**, tolmesoxide-induced in dogs, **89**, 313
- Haemoglobin**, effect on atriopeptin II-induced relaxation of rabbit aorta, **89**, 557
- , mechanisms of inhibition of relaxation of rabbit aorta induced by nitrovasodilators, nitric oxide or bovine retractor penis inhibitory factor, **89**, 563
- Haemoglobin-oxygen affinity**, effect of increase on myocardial function in erythrocyte-perfused rabbit heart *in vitro* and myocardial infarct size in the dog, **89**, 183
- Haemorrhagic shock**, protective action of allopurinol in an experimental model, **89**, 149
- Haloperidol**, inhibition of dopamine-induced amylase secretion from rat parotid salivary gland, **89**, 473
- Harmala alkaloids**, inhibition of calcium channels in vascular and intestinal smooth muscles, **89**, 367
- Harmaline**, inhibition of calcium channels in vascular and intestinal smooth muscles, **89**, 367
- Head twitch behaviours**, 5-HT-receptor mediated, effect of chronic 5-HT<sub>1</sub> agonist and antagonist drugs in mice, **89**, 377
- Heart rate**, effect of verapamil stereoisomers in conscious rats, **89**, 137
- Herring gull**, studies of postsynaptic  $\alpha_1$ - and  $\alpha_2$ -adrenoceptors in vascular system, **89**, 477
- Hexamethonium**, action on rat submandibular ganglia, **89**, 583
- , effect on GABA release from guinea-pig isolated small intestine, **89**, 787
- , production of tetanic fade in rat isolated diaphragm, **89**, 619
- High pressure**, interactions with alphaxalone/alphadolone and methohexitone in tadpoles, effect on anaesthetic potency, **89**, 299
- Hippocampus**, rat, effect of selective lesions of 5-hydroxytryptaminergic fibres on behavioural and adrenocortical responses to nicotine, **89**, 341
- , rat, glutamate-induced increase in intracellular  $\text{Ca}^{2+}$  in hippocampal neurones, **89**, 191
- Histamine**, effect on the action of BRL34915 on guinea-pig isolated trachealis, **89**, 395
- , induction of catecholamine secretion from cultured, bovine adrenal chromaffin cells, effects of opioid peptides and morphine, **89**, 327
- , induction of contractions and relaxations in rubbed and intact rat aorta, influence of vascular endothelium, **89**, 819
- , responses of dog isolated mesenteric arteries, effect of aging, **89**, 769
- , study of the role in rat uterotrophic responses, **89**, 251
- , tissue levels in feline endotoxin shock, **89**, 635
- Histamine H<sub>2</sub>-receptor agonists**, mediation of breakdown of inositol phospholipids in guinea-pig brain, regional variation, **89**, 809
- Histamine H<sub>2</sub>-receptors**, mediation of impromidine positive inotropic activity on human ventricle, **89**, 335
- Histidine decarboxylase**, effect of feline endotoxin shock on activity, **89**, 635
- Hot plate test**, effect of  $\alpha$ -adrenoceptor antagonists on 5-methoxy-N,N-dimethyltryptamine-induced analgesia in rats, **89**, 293
- 8-Hydroxy-2-(di-*n*-propylamino) tetralin**, effects on behavioural responses to 5-HT<sub>1</sub> and 5-HT<sub>2</sub> agonists, in mice, **89**, 377
- , induction of decrease in 5-HT release and metabolism in rat suprachiasmatic nucleus after intravenous administration, **89**, 277

- 6-Hydroxydopamine**, effect on sympathetic neurotransmission in vas deferens of guinea-pig, rat and mouse, **89**, 647
- 5-Hydroxytryptamine**, effect on mesenteric veins of portal hypertensive rats, **89**, 501
- , reduction of release and metabolism after intravenous 8-hydroxy-2-(*n*-dipropylamino) tetralin, involvement of 5-HT<sub>1A</sub>-receptors and  $\alpha_2$ -adrenoceptors, **89**, 277
- 5-Hydroxytryptamine<sub>2</sub>-like receptors**, classification using tryptamine agonist and antagonist analogues, **89**, 493
- 5-Hydroxytryptamine receptor agonists**, behavioural responses in mice, effect of chronic 5-HT<sub>1</sub> agonist and antagonist drugs, **89**, 377
- 5-Hydroxytryptamine<sub>2</sub> receptor antagonists**, *in vivo* and *in vitro* activity to lower blood pressure in rats, **89**, 129
- 5-Hydroxytryptamine receptors**, examination in human saphenous vein, **89**, 77
- 5-Hydroxytryptamine<sub>1A</sub> receptors**, involvement in decreased 5-HT release and metabolism in rat suprachiasmatic nucleus after intravenous 8-hydroxy-2-(*n*-dipropylamino) tetralin, **89**, 277
- 5-Hydroxytryptamine<sub>2</sub>-receptors**, role in portal hypertension, **89**, 501
- Hyoscine methiodide isomers**, selectivity for muscarinic M<sub>2</sub> acetylcholine receptors in guinea-pig atria and ileum, **89**, 439
- Hyoscyamine camphorsulphonate isomers**, selectivity for muscarinic M<sub>2</sub> acetylcholine receptors in guinea-pig atria and ileum, **89**, 439
- Hyperglycaemia**, catecholamine-induced in conscious fasted rabbits, role of  $\alpha$ -adrenoceptors, **89**, 55
- , frusemide-induced, effect of probenecid in mice, **89**, 307
- Hypertension**, effect on phosphoinositide hydrolysis in the rat, **89**, 803
- , oestrogen-induced, role of sympathetic nervous system in rats, **89**, 685
- Hypothalamus**, rat, biphasic actions of L-DOPA on the release of endogenous NA and dopamine, **89**, 229
- Hypothermic response**, to 5-HT<sub>1</sub> agonist in mice, effect of chronic 5-HT<sub>1</sub> agonist and antagonist drugs, **89**, 377

## I

- Idazoxan**, antagonism of inhibitory effect of  $\alpha_2$ -adrenoceptor agonists in rat isolated gastric mucosa, **89**, 361
- Ileum**, guinea-pig, dissociation constants and relative efficacies of ACh and methacholine enantiomers at muscarinic receptors, **89**, 7
- , guinea-pig, search for selective antagonists at muscarinic M<sub>2</sub> receptors, **89**, 837
- , guinea-pig, selectivity of isomers of hyoscine methiodide and hyoscyamine camphorsulphonate for muscarinic M<sub>2</sub> acetylcholine receptors, **89**, 439
- Immunocytochemistry**, investigation of role of vasoactive intestinal peptide in control of bovine pulmonary vascular tone, **89**, 157
- Immunoreactive insulin plasma levels**, effect of phenoxybenzamine-blockade of phenylephrine- and adrenaline-induced hypoglycaemia in conscious fasted rabbits, **89**, 55
- Impromidine**, inotropic effects on human ventricular myocardium, **89**, 335
- Indomethacin**, correlation between inhibition of prostacyclin formation and potentiation of contractile responses to

- NA in rabbit mesenteric artery, **89**, 861
- , effect on K<sup>+</sup>-induced relaxation of guinea-pig trachealis, **89**, 27
- , effect on Paf-induced gastric mucosal necrosis and haemoconcentration in the rat, **89**, 415
- , effects on the action of *N*-formyl-L-methionyl-L-leucyl-L-phenylalanine in guinea-pig, **89**, 349
- , effect on vasodilator actions of TRK-100 in dog arteries, **89**, 703
- , intrauterine delivery of, impairment of protein synthesis in rat uterus, **89**, 199
- Inflammation**, induction in rabbit skin by topical arachidonic acid, **89**, 431
- , zymosan-induced in rat peritoneal cavity, kinetics of generation and action of chemical mediators, **89**, 719
- Inositol phospholipids**, regional variation in the characteristics of histamine H<sub>1</sub>-mediated breakdown in guinea-pig brain, **89**, 809
- Inotropic effects**, noradrenaline- and adrenaline-induced in human ventricular preparations, effect of (–)-pindolol, **89**, 207
- , positive, impromidine induced in human ventricular myocardium, **89**, 335
- , positive, ouabain-evoked in rat isolated ventricles, selective inhibition by ethylisopropylamiliride, **89**, 533
- Insulin secretion**, effect of intravenous infusion of phenylephrine in fasted rabbits, **89**, 55
- Iontophoretic application**, effect of enflurane on cholinergic transmission in *Aplysia* neurones, **89**, 573
- Isapirone**, effects on behavioural responses to 5-HT<sub>1</sub> and 5-HT<sub>2</sub> agonists in mice, **89**, 377
- Isoguvacine**, effect on release of cholecystokinin-like immunoreactivity from slices of rat neo-striatum, **89**, 845
- Isoprenaline**, effect of epithelium removal on the sensitivity of guinea-pig isolated trachealis, **89**, 407
- , responses of dog isolated mesenteric arteries, effect of aging, **89**, 769
- , stimulation of renin release from incubations of rat renal cortex, **89**, 173
- , effect on GABA release from guinea-pig isolated small intestine, **89**, 787

## J

- Jugular vein**, rat, classification of 5-HT<sub>2</sub>-like receptors using tryptamine agonist and antagonist analogues, **89**, 493

## K

- Ketanserin**, effect on concentration-response curve to 5-HT in human saphenous vein, **89**, 77
- , effect on mesenteric veins of portal hypertensive rats, **89**, 501
- , hypotensive effects *in vivo* and *in vitro* in rats, **89**, 129
- Kidney**, rat, stimulation and suppression of renin release from renal cortex by factors affecting calcium flux, **89**, 173
- , rat, study of the actions of nitrendipine and diltiazem on the adrenergic regulation of calcium and sodium reabsorption, **89**, 99

## L

- Lanthanum**, blockade of stimulation of renin release from rat renal cortex by isoprenaline, **89**, 173
- Leukopenia**, induced by *N*-formyl-L-methionyl-L-leucyl-L-phenylalanine in guinea-pigs, pharmacological modulation, **89**, 349
- Leukotrienes**, effects on Paf-induced gastric mucosal necrosis and haemoconcentration, **89**, 415
- Lignocaine**, effects on action potential conduction and transmitter release in guinea-pig vas deferens, **89**, 235
- Lingual artery**, rabbit, electrophysiological analysis of neurogenic vasodilatation, **89**, 157
- 5-Lipoxygenase inhibitors**, effect on arachidonic acid-induced plasma extravasation in rabbit skin, **89**, 431
- Local anaesthetic activity**, DPI 201-106 in cats, **89**, 277
- Locomotor response**, to 5-HT<sub>1</sub> agonist in mice, effect of chronic 5-HT<sub>1</sub> agonist and antagonist drugs, **89**, 377
- Long chain acyl carnitine**, electrophysiological effects on cardiac tissues, **89**, 749
- Long Evans rats**, effects of M320 on urine excretion, **89**, 759
- LY53857**, hypotensive effects *in vivo* and *in vitro* in rats, **89**, 129
- Lysophosphatidylcholine**, electrophysiological effects on cardiac tissues, **89**, 749

## M

- M320**, effects on urine excretion of rats, **89**, 759
- M&B 22**, 948, effect on atriopeptin II-induced relaxation of rabbit aorta, **89**, 557
- Mechanical effects**, BRL34915-induced in guinea-pig isolated trachealis, **89**, 395
- Medulla oblongata**, effects of narcotic analgesics on rate of action potential discharge of respiratory neurones, **89**, 67
- Membrane properties**, effects of pentobarbitone in neurones of guinea-pig olfactory cortex, **89**, 321
- Mepyramine**, effect on oestrogen and anti-oestrogen-stimulated rat uterus, **89**, 251
- , effects of the action of *N*-formyl-L-methionyl-L-leucyl-L-phenylalanine in guinea-pig, **89**, 349
- Mesenteric veins**, hypersensitivity to 5-HT- and ketanserin-induced reduction of portal pressure in portal hypertensive rats, **89**, 501
- Mesenteric artery**, dog, vasodilator actions of TRK-100, **89**, 703
- , rabbit, relationship between NA-induced contraction and <sup>45</sup>Ca efflux stimulation, **89**, 739
- , rats, activity of selective 5-HT<sub>2</sub> receptor antagonists, **89**, 129
- Methacholine**, effect of release on NA and [Met<sup>5</sup>]enkephalin-immunoreactive material from bovine adrenal gland, **89**, 713
- Methacholine enantiomers**, dissociation constants and relative efficacy at muscarinic receptors in guinea-pig ileum, **89**, 7
- Methaemoglobin**, mechanisms of inhibition of vasodilator actions of nitrovasodilators, nitric oxide or bovine retractor penis inhibitory factor, **89**, 563
- Methohexitone**, effects of high pressure on anaesthetic potency, **89**, 299
- 5-Methoxy-*N,N*-dimethyltryptamine**, induction of analgesia in rats, blockade by  $\alpha$ -adrenoceptor antagonists, **89**, 293
- N*-methyl scopolamine** *see* Hyoscyne methiodide isomers
- 2-Methylhistamine**, mediation of breakdown of inositol phospholipids in guinea-pig brain, regional variations, **89**, 809
- $\alpha$ ,  $\beta$ -Methylene adenosine triphosphate, effect on sympathetic neurotransmission in vas deferens of guinea-pig, rat and mouse, **89**, 647
- Metoprolol**, effects in conscious atrio-ventricular blocked dogs, **89**, 119
- Metorphamide**, effect on histamine-induced catecholamine secretion from cultured, bovine adrenal chromaffin cells, **89**, 327
- Microfluorometry**, study of glutamate-induced increase in intracellular Ca<sup>2+</sup> concentration in isolated rat hippocampal neurones, **89**, 191
- Migraine**, effectiveness of nimodipine, **89**, 35
- MLV-5860**, reduction of rat decerebrate rigidity, **89**, 219
- MLV-6976**, reduction of rat decerebrate rigidity, **89**, 219
- Morphine**, effect on adenylate cyclase activity in rat striatum and vas deferens, **89**, 109
- , effect on histamine-induced catecholamine secretion from cultured, bovine chromaffin cells, **89**, 327
- , effect on the rate of action potential discharge of medullary respiratory neurones in anaesthetized rats, **89**, 67
- Morphine withdrawal**, effect on cortical acetylcholine release and GABA efflux in guinea-pig, **89**, 853
- Muscarine**, effect on release of [Met<sup>5</sup>]enkephalin-immunoreactive material from the bovine adrenal gland, **89**, 713
- Muscarinic acetylcholine receptors**, differentiation, **89**, 83
- , dissociation constants and relative efficacies of ACh and methacholine enantiomers in guinea-pig, **89**, 7
- , modulation of release of [Met<sup>5</sup>]enkephalin immunoreactive material and catecholamines from the bovine adrenal gland, **89**, 713
- , presynaptic, mediation of regulation of GABA release from myenteric neurones of the guinea-pig small intestine, **89**, 787
- , role in dog adrenal medulla, **89**, 831
- Muscarinic M<sub>2</sub> acetylcholine receptors**, search for selective antagonists, **89**, 837
- , selectivity of hyoscyne methiodide isomers and hyoscyamine camphorsulphate isomers in guinea-pig atria and ileum, **89**, 439
- Muscimol**, effect on release of cholecystokinin-like immunoreactivity from rat neostriatum, **89**, 845
- Myocardial function**, effect of allopurinol in anaesthetized, open chest dogs, **89**, 149
- , effect of BW12C in erythrocyte-perfused rabbit heart *in vitro* and on myocardial infarct size in the dog, **89**, 183
- , effects of tolmesoxide in dogs, **89**, 313
- Myocardial infarct**, effect of BW12C on size in dog, **89**, 183
- Myocardium**, feline and human, mode of action of (–)-pindolol, **89**, 207
- Myocardium**, human, partial histamine H<sub>2</sub>-receptor agonist activity of impromidine, **89**, 335

## N

- N-(6-aminohexyl)-5-chloro-1-naphthalene sulphonamide** *see* W7
- Naloxone**, effect on ACh and GABA outflow from cerebral cortex of morphine-dependent guinea-pigs, **89**, 853
- Neostriatum**, rat, stimulation of GABA receptors modulates the release of cholecystokinin-like immunoreactivity, **89**, 845
- Nerve block**, effect of local application of capsaicin in rat and ferret, **89**, 267
- Neuroeffector transmission**, electrophysiology in the isolated, innervated trachea of the guinea-pig, **89**, 793
- Neuromuscular junctions**, frog and rat, nerve membrane sodium channels as the target site of brevetoxins, **89**, 731
- Neuromuscular transmission**, role in (+)-tubocurarine resistance in dystrophic mice, **89**, 47
- Nicotine**, effect on GABA release from guinea-pig isolated small intestine, **89**, 787
- , measurement of behavioural and adrenocortical responses to nicotine measured in rats with selective lesions of the 5-hydroxytryptaminergic fibres innervating the hippocampus, **89**, 341
- Nicotinic acetylcholine receptors**, role in dog adrenal medulla, **89**, 831
- Nicotinic acetylcholine antagonists**, comparison of mechanisms of action on rat submandibular ganglia, **89**, 583
- , production of differing amounts of tetanic fade in the isolated diaphragm of the rat, **89**, 619
- Nifedipine**, effect on action potential conduction and transmitter release in guinea-pig vas deferens, **89**, 235
- , effect on human pregnant myometrium contractility, **89**, 515
- , effect on tetrodotoxin-sensitive, K<sup>+</sup>-induced relaxation of guinea-pig trachealis, **89**, 27
- Nigrostriatal lesions**, effect on binding capacity for [<sup>3</sup>H]-tyramine in rat central nervous system, **89**, 15
- Nimodipine**, induction of changes in the distribution of carotid blood flow and cardiac output in pentobarbitone-anaesthetized pigs, **89**, 35
- Nitrendipine**, effect on the adrenergic regulation of calcium and sodium reabsorption in the rat, **89**, 99
- Nitric oxide**, induction of relaxation of rabbit aorta, mechanisms of haemoglobin inhibition, **89**, 563
- Nitrosoureas**, derived from cysteamine, cytostatic action, **89**, 539
- Nitrovasodilators**, induction of relaxation of rabbit aorta, mechanisms of haemoglobin inhibition, **89**, 563
- Non-adrenergic, non-cholinergic nerves**, longitudinal muscle of mouse colon, evidence against VIP as the inhibitory factor, **89**, 599
- Non-cholinergic excitatory nerve**, role in catecholamine-induced contractions of smooth muscle from rainbow trout stomach, **89**, 259
- Non-steroidal anti-inflammatory drugs**, interference with protein synthesis in rat uterus following intrauterine delivery of, **89**, 199
- Noradrenaline**, biphasic effect of L-DOPA on release from rat hypothalamus slices, **89**, 229
- , effect on acid secretory responses of rat isolated gastric mucosa to electrical field stimulation, **89**, 361
- , effect on GABA release from guinea-pig isolated small intestine, **89**, 787

- , effect on phosphoinositide hydrolysis in the spontaneously hypertensive rat, **89**, 803
- , induction of contractions, relationship with <sup>45</sup>Ca efflux stimulation in rabbit mesenteric artery, **89**, 739
- , induction of contractions in rubbed and intact aorta, influence of vascular endothelium, **89**, 819
- , induction of contractions in smooth muscle from rainbow trout stomach, **89**, 259
- , interactions between vasoconstrictor responses with  $\alpha_2$ -adrenoceptor agonists in rat superior mesenteric arterial bed, **89**, 779
- , neuronal uptake, inhibition by antidepressant drugs in rat deferens, effect on presynaptic  $\alpha_2$ -adrenoceptors, **89**, 673
- , pressor responses to low doses in ethinyl oestradiol-treated rats, **89**, 685
- , positive inotropic effects, antagonism of (–)-pindolol in kitten and man, **89**, 207
- Noradrenergic nerves**, mediation of dopamine-induced amylase secretion from rat parotid salivary gland, **89**, 473
- Norethindrone**, effect on adenosine-evoked depression of the firing of rat cerebral cortical neurones, **89**, 693
- NSD-1055**, effects on the action of L-DOPA on release of endogenous NA and dopamine from rat hypothalamic slices, **89**, 229

## O

- Oestrogen**, induction of hypertension in rats, role of sympathetic nervous system, **89**, 685
- , stimulation of rat uterus, effect of antihistamines, **89**, 251
- Oestrous cycle**, effect of intrauterine delivery of slow release preparation of indomethacin in rats, **89**, 199
- Olfactory cortex**, guinea-pig, action of pentobarbitone on the excitatory postsynaptic potentials and membrane properties of neurones, **89**, 321
- Opioid agonists**, effect on urine excretion in rats, **89**, 759
- $\kappa$ -Opioid agonists**, mechanism of induction of diuresis, **89**, 593
- $\mu$ -Opioid agonists**, induction of diuresis in rats, effect of demedullation, **89**, 593
- Opioid peptides**, effect on histamine-induced catecholamine secretion from cultured, bovine chromaffin cells, **89**, 327
- Opioid receptors**, physiological relevance of adenylate cyclase coupling to subtypes, **89**, 109
- $\kappa$ -Opioid receptors**, agonist activity of bremazocine in guinea-pig myenteric plexus, **89**, 245
- $\mu$ -Opioid receptors**, antagonist activity of bremazocine in guinea-pig myenteric plexus, **89**, 245
- Ouabain**, effect on K<sup>+</sup>-induced relaxation of guinea-pig trachealis, **89**, 27
- , induction of arrhythmias and cardiac arrest in guinea-pig, effect of  $\alpha$ -adrenoceptor agonists and antagonists, **89**, 385
- , induction of positive inotropic effects in rat ventricular strips, selective inhibition by ethylisopropylamiloride, **89**, 533
- , inhibition of renin secretion from incubations of rat renal cortex in the presence of external Ca<sup>2+</sup>, **89**, 173
- Oxazolidinones**, effects on decerebrate rigidity in the rat, **89**, 219



**Oxotremorine**, effect on GABA release from guinea-pig isolated small intestine, **89**, 787

## P

**Pancuronium**, production of tetanic fade in rat isolated diaphragm, **89**, 619

**Papaverine**, effect of epithelium removal on sensitivity of guinea-pig isolated trachealis, **89**, 407

**Parotid salivary gland**, rat, dopamine-induced amylase secretion, **89**, 473

**Papillary muscles**, guinea-pig, comparison of the effects of acetyl glyceryl ether phosphorylcholine, lysophosphatidylcholine and long chain acyl carnitine, **89**, 749

**Penbutolol**, effects in conscious atrio-ventricular blocked dogs, **89**, 119

**Pentobarbitone**, action on the excitatory postsynaptic potentials and membrane properties of neurones in guinea-pig olfactory cortex, **89**, 321

**Peritoneal cavity**, rabbit, kinetics of the generation and action of chemical mediators in zymosan-induced inflammation, **89**, 719

**Phenoperidine**, effects on the rate of action potential discharge of medullary respiratory neurones in anaesthetized rats, **89**, 67

**Phenoxybenzamine**, effect on the actions of phenylephrine on blood glucose and liver glycogen in conscious fasted rabbits, **89**, 55

**Phentolamine**, blockade of 5-methoxy-*N*, *N*-dimethyltryptamine-induced analgesia in rats, **89**, 293

—, effect on NA-induced contractions in smooth muscle of rainbow trout stomach, **89**, 259

**Phenylephrine**, effect on acid secretory responses of rat isolated gastric mucosa to electrical field stimulation, **89**, 361

—, effect on GABA release from guinea-pig isolated small intestine, **89**, 787

—, effect on ouabain-induced arrhythmias and cardiac arrest in guinea-pig, **89**, 385

—, induction of contractions in smooth muscle of rainbow trout stomach, **89**, 259

—, induction of dose-dependent increases of arterial blood pressure in herring gulls, **89**, 477

**Phosphoinositide hydrolysis**, abnormal in spontaneously hypertensive rat, **89**, 803

**Physostigmine**, enhancement of dopamine-induced amylase secretion from rat salivary gland, **89**, 473

**Pilocarpine**, effect on release of NA from bovine adrenal gland, **89**, 713

(-)-**Pindolol**, mode of action in feline and human myocardium, **89**, 207

**Pindolol stereoisomers**, effects in conscious atrio-ventricular blocked dogs, **89**, 119

**Pirenzepine**, binding and functional profiles, **89**, 83

—, effect on GABA release from guinea-pig isolated small intestine, **89**, 787

**Plasma extravasation**, arachidonic acid-induced in rabbit skin, inhibition by cyclo-oxygenase and 5-lipoxygenase inhibitors, **89**, 431

**Platelet activating factor**, induction of gastric mucosal necrosis and haemoconcentration in rats, **89**, 415

—, synthetic, electrophysiological effects on cardiac tissues, **89**, 749

**Polyamines**, effect on K<sup>+</sup>-induced relaxation of guinea-pig isolated trachealis, **89**, 27

**Polymorphonuclear leukocytes**, role in C5a and C5a des Arg-induced increase in microvascular permeability in rat peritoneal cavity, **89**, 719

**Portal hypertension**, effect of 5-HT and ketanserin on portal pressure in rat mesenteric veins, **89**, 501

**Potassium**, effect of concentrations on activities of verapamil stereoisomers in conscious rats, **89**, 137

—, induction of contractions in human pregnant myometrium, effect of calcium entry blockers, **89**, 515

—, induction of tetrodotoxin-sensitive relaxation of guinea-pig isolated trachealis in the presence of Ca<sup>2+</sup>-entry blocking drugs, Ca<sup>2+</sup>-free solution and after polyamine exposure, **89**, 27

—, responses of dog isolated mesenteric arteries, effect of aging, **89**, 769

**Potassium channels**, role in the action of BRL34915 in guinea-pig isolated trachealis, **89**, 395

**Potassium chloride**, effect on the action of BRL34915 on guinea-pig isolated trachealis, **89**, 395

**Potassium currents**, cat dorsal root ganglion neurones *in vitro*, effects of GABA and (-)-baclofen, **89**, 661

**Potassium depletion**, inhibition of renin secretion from incubations of rat renal cortex in the presence of external Ca<sup>2+</sup>, **89**, 173

**Prazosin**, adrenolytic action in rat isolated aorta, role of cyclic GMP in the modulation by endothelium, **89**, 525

—, antagonism of clonidine reduced release of GABA from guinea-pig isolated small intestine, **89**, 787

—, blockade of 5-methoxy-*N*, *N*-dimethyltryptamine-induced analgesia in rats, **89**, 293

—, effect on cardiovascular responses of herring gull to phenylephrine or clonidine, **89**, 477

—, effect on inhibitory action of  $\alpha_2$ -adrenoceptor agonists in rat isolated gastric mucosa, **89**, 361

—, effect on ouabain-induced arrhythmias and cardiac arrest in guinea-pigs, **89**, 385

—, lack of effect on catecholamine-induced contractions in smooth muscle from rainbow trout, **89**, 259

**Prednisolone**, effect on Paf-induced gastric mucosal necrosis and haemoconcentration in the rat, **89**, 415

**Pregnenolone sulphate**, effect on adenosine-evoked depression of the firing of rat cerebral cortical neurones, **89**, 693

**Probenecid**, potentiation of hyperglycaemic effects but reduction of diuretic effects of frusemide in mice, **89**, 307

**Procyclidine**, selective muscarinic M<sub>2</sub> activity in guinea-pig atria and ileum, **89**, 837

**Progestational agents**, effects on adenosine-evoked depression of the firing of rat cerebral cortical neurones, **89**, 693

**Progesterone**, effect on adenosine-evoked depression of the firing of rat cerebral cortical neurones, **89**, 693

**Propranolol**, effect on K<sup>+</sup>-induced relaxation of guinea-pig trachealis, **89**, 27

—, effect on vasodilator actions of TRK-100 in dog arteries, **89**, 703

—, stereoselective antagonism of L-DOPA-induced facilitation of the evoked release of NA and dopamine in the presence of NSD-1055 from rat hypothalamic slices, **89**, 229

- Propranolol stereoisomers**, effects in conscious atrioventricular blocked dogs, **89**, 119
- Prostacyclin**, effects on the actions of *N*-formyl-L-methionyl-L-leucyl-L-phenylalanine in guinea-pig, **89**, 349
- , kinetics of generation and action in zymosan-induced inflammation of the rabbit peritoneal cavity, **89**, 719
- , production in atria of diabetic rats, **89**, 613
- , responses of dog isolated mesenteric arteries, effect of aging, **89**, 769
- , role in feedback control of arterial smooth muscle tone, **89**, 861
- Prostacyclin analogues**, vasodilator actions in relaxed arteries of the dog, **89**, 703
- Prostaglandin I<sub>2</sub>**, *see* **Prostacyclin**
- Prostaglandins**, effects on Paf-induced gastric mucosal necrosis and haemoconcentration, **89**, 415
- Protein synthesis**, impairment in rat uterus following intrauterine delivery of indomethacin, **89**, 199
- Psoriasis**, anti-inflammatory action of 5-lipoxygenase inhibitors, evaluation using inflammation induced by arachidonic acid in rabbit skin, **89**, 431
- Pulmonary surfactant**, regulation of secretion from rat isolated alveolar Type II cells by P<sub>2</sub>-purinoceptors, **89**, 485
- Pulmonary vascular tone**, role of vasoactive intestinal peptide in control in bovine pulmonary artery, **89**, 157
- Purine analogues**, effect on secretion of surfactant in rat isolated alveolar Type II cells, **89**, 485
- Purinoceptor antagonists**, effect on excitatory junction potential in guinea-pig saphenous artery, **89**, 3
- P<sub>2</sub>-purinoceptors**, regulation of surfactant secretion from rat isolated alveolar Type II cells, **89**, 485
- Purkinje fibres**, dog, comparison of the effects of acetyl glyceryl ether phosphorylcholine, lysophosphatidylcholine and long chain acyl carnitine, **89**, 749
- Pyrimidine analogues**, effect on secretion of surfactant in isolated alveolar Type II cells, **89**, 485
- R**
- R56413**, hypotensive effects *in vivo* and *in vitro* in rats, **89**, 129
- Ranitidine**, effect on the oestrogen and anti-oestrogen stimulated rat uterus, **89**, 251
- Rauwolfscine**, effect on cardiovascular responses of herring gull to phenylephrine or clonidine, **89**, 477
- Receptor theory**, analysis of competitive antagonism when this property occurs as part of a pharmacological resultant, **89**, 547
- Red-tide toxins**, effect at nerve membrane sodium channels at neuromuscular junctions, **89**, 731
- Reflex stimuli**, muscarinic and nicotinic mechanisms in the responses of the dog adrenal medulla, **89**, 831
- Relaxation**, agonist induced in rat aorta, influence of vascular endothelium, **89**, 819
- , atriopeptin II-induced in rabbit aorta, effects of M&B 22, 948 or haemoglobin, **89**, 557
- Renal nerves**, induction of calcium reabsorption by rat kidney, identification of  $\alpha$ -adrenoceptor subtype involved in mediation, **89**, 91
- , role in the action of diltiazem and nitrendipine in rat, **89**, 99
- Renin**, stimulation and suppression of release from incuba-

- tions of rat renal cortex by factors affecting calcium flux, **89**, 173
- Reperfusion**, experimental model, protective action of allopurinol, **89**, 149
- Reserpine**, effect on density of [<sup>3</sup>H]-tyramine binding sites in rat central nervous system, **89**, 15
- , reduction of dopamine-induced amylase secretion from rat salivary gland, **89**, 473
- Respiration**, effects of narcotic analgesics, **89**, 67
- Respiratory neurones**, rat medulla oblongata, effects of narcotic analgesics on rate of action potential discharge, **89**, 67
- Ritanserlin**, hypotensive effects *in vivo* and *in vitro* in rats, **89**, 129
- RNA/DNA ratio**, effect of intrauterine delivery of slow release preparation of indomethacin in rats, **89**, 199
- RU 24969**, effects on behavioural responses to 5-HT<sub>1</sub> and 5-HT<sub>2</sub> agonists in mice, **89**, 377
- Rubidium**, effect of BRL34915 on efflux from muscle rich strips of guinea-pig trachea, **89**, 395

## S

- Salbutamol**, effect of epithelium removal on sensitivity of guinea-pig isolated trachealis, **89**, 407
- Saphenous artery**, guinea-pig, inhibition of excitatory junction potentials by arylazido aminopropionyl adenosine triphosphate, **89**, 3
- Saphenous vein**, human, examination of 5-hydroxytryptamine receptors, **89**, 77
- Scopolamine**, effect of GABA release from guinea-pig isolated small intestine, **89**, 787
- Shock-tritration test**, effect of  $\alpha$ -adrenoceptor antagonists on 5-methoxy-*N,N*-dimethyltryptamine-induced analgesia in rats, **89**, 293
- Silabenzohexol**, selective muscarinic M<sub>2</sub> activity in guinea-pig atria and ileum, **89**, 837
- Sila-procyclidine**, selective muscarinic M<sub>2</sub> activity in guinea-pig atria and ileum, **89**, 837
- Sinoatrial pacemaker**, agonistic activity of (–)-pindolol in cat or man, **89**, 207
- Skin**, rabbit, inflammatory response to topical arachidonic acid and pharmacological modulation, **89**, 431
- , rabbit, rat, ferret and guinea-pig, effects of local application of capsaicin on nerve conduction, **89**, 267
- Slow release system of drug delivery**, impairment of protein synthesis in rat uterus following intrauterine delivery of indomethacin, **89**, 199
- Small intestine**, guinea-pig isolated, presynaptic muscarinic and  $\alpha$ -adrenoceptor-mediated regulation of GABA release, **89**, 787
- Smooth muscle**, rabbit and rat aorta and guinea-pig taenia caecum, effect of CGP 28, 392 on different modes of contraction, **89**, 423
- Smooth muscle excitatory factor**, release from epithelium of guinea-pig trachealis, **89**, 407
- Sodium**, study of the renal actions of nitrendipine and diltiazem on the adrenergic regulation of reabsorption, **89**, 99
- Sodium azide**, vasodilator actions in rabbit aorta, mechanisms of haemoglobin inhibition, **89**, 563
- Sodium channels**, effects of anti-anginal arylalkyl amines, **89**, 641

- , target site of brevetoxins at nerve membranes at the neuromuscular junction, **89**, 731
- Sodium chloride**, effect on opioid inhibition of adenylate cyclase in rat striatum and vas deferens, **89**, 109
- Sodium nitroprusside**, effect of epithelium removal on the sensitivity of guinea-pig isolated trachealis, **89**, 407
- Spiroperidol**, inhibition of dopamine-induced amylase secretion from rat parotid salivary gland, **89**, 473
- Spontaneous contractions**, effect of calcium entry blockers in human pregnant myometrium, **89**, 515
- Stomach**, rainbow trout,  $\alpha_2$ -adrenoceptor-mediated contractile response to catecholamines in smooth muscle strips, **89**, 259
- Striatum**, rat, opioid inhibition of adenylate cyclase, **89**, 109
- Structure-activity relations**, muscarinic  $M_2$ -receptor antagonists, **89**, 837
- Submandibular ganglia**, rat, comparison between mechanisms of action of different nicotinic blocking agents, **89**, 583
- Substance P**, role in gastrointestinal motility in the rat, **89**, 453
- Sulpiride**, stereoselective antagonism of L-DOPA-induced facilitation of the evoked release of NA and dopamine in the presence of NSD-1055 from rat hypothalamic slices, **89**, 229
- Superior mesenteric arterial bed**, rat, interactions between NA and  $\alpha_2$ -adrenoceptor agonists, **89**, 779
- Suprachiasmatic nucleus**, rat, involvement of 5-HT<sub>1A</sub> receptors and  $\alpha_2$ -adrenoceptors in decreased 5-HT release after intravenous tetralin, **89**, 277
- Sympathectomy**, reduction of dopamine-induced amylase secretion from rat salivary gland, **89**, 473
- Sympathetic nervous system**, role in oestrogen-induced hypertension in rats, **89**, 685
- Sympathetic neurotransmission**, actions of  $\alpha, \beta$ -methylene adenosine triphosphate and 6-hydroxydopamine in guinea-pig, rat and mouse vas deferens, **89**, 647
- T**
- T-17**, action on giant axon of the squid and frog and rat neuromuscular junctions, **89**, 731
- Tachykinins**, involvement in the regulation of gastrointestinal motility, **89**, 453
- Taenia caecum**, guinea-pig, effects of CGP 28,392 on different modes of contraction in smooth muscle, **89**, 423
- , guinea-pig, inhibition of calcium channels by harmaline and other harmala alkaloids in smooth muscle, **89**, 367
- Tail flick test**, effect of  $\alpha$ -adrenoceptor antagonists on 5-methoxy-*N,N*-dimethyltryptamine-induced analgesia in rats, **89**, 293
- Tamoxifen**, stimulation of rat uterus, effect of antihistamines, **89**, 251
- Tetanic fade**, induction in rat isolated diaphragm by nicotinic antagonists, **89**, 619
- [<sup>3</sup>H]-**tetracaine binding**, effects of anti-anginal arylalkylamines in rat synaptosomal preparations and heart membrane preparations, **89**, 641
- Tetraethylammonium**, effect on the action of BRL34915 in guinea-pig isolated trachealis, **89**, 395
- , induction of relaxation of guinea-pig trachealis in the presence of calcium entry blockers, **89**, 27
- Tetrodotoxin**, blockade of K<sup>+</sup>-induced relaxation in the presence of nifedipine, in Ca<sup>2+</sup>-free solution and after polyamine exposure in guinea-pig trachealis, **89**, 27
- , partial reduction of contractions induced by catecholamines in smooth muscle from stomach of rainbow trout, **89**, 259
- Thrombocytopenia**, induced by *N*-formyl-L-methionyl-L-leucyl-L-phenylalanine in guinea-pig, pharmacological modulation, **89**, 349
- Thromboxane A<sub>2</sub>**, role in pressor responses of alloxan-treated diabetic rats to arachidonic acid, **89**, 613
- Thromboxane B<sub>2</sub>**, effect of *N*-formyl-L-methionyl-L-leucyl-L-phenylalanine on synthesis in guinea-pigs, **89**, 349
- Tolmesoxide**, haemodynamic and metabolic effects with special reference to impaired myocardial function, **89**, 313
- Trachea**, guinea-pig, electrophysiology of neuro-effector transmission, **89**, 793
- Trachealis**, guinea-pig, effect of K<sup>+</sup> in the presence of Ca<sup>2+</sup>-entry blocking drugs and in the presence of Ca<sup>2+</sup> free solution, **89**, 27
- , guinea-pig isolated, effect of epithelium removal on sensitivity to bronchodilator drugs, **89**, 407
- , guinea-pig isolated, electrical and mechanical effects of BRL34915, **89**, 395
- Transmitter release**, effects of calcium channel antagonists in guinea-pig vas deferens, **89**, 235
- Trifluadom**, induction of diuresis in rats, effect of demedullation, **89**, 593
- Trifluoperazine**, antiarrhythmic and electrophysiological effects, **89**, 603
- Trihexyphenidyl**, binding and functional profiles, **89**, 83
- Trimetaphan**, action on rat submandibular ganglia, **89**, 583
- , production of tetanic fade in rat isolated diaphragm, **89**, 619
- TRK-100**, vasodilator actions in relaxed isolated arteries of dog, **89**, 703
- Tryptamine agonists and antagonists**, classification of 5-HT<sub>2</sub>-like receptors in rabbit aorta and rat jugular vein, **89**, 493
- Tubocurarine**, action on rat submandibular ganglia, **89**, 583
- , origin of resistance in dystrophic mice, **89**, 47
- , production of tetanic fade in rat isolated diaphragm, **89**, 619
- Twitch response**, of muscles from dystrophic mice, resistance to blockade by curare, **89**, 47
- [<sup>3</sup>H]-**tyramine**, high affinity binding in rat central nervous system, **89**, 15
- U**
- U46619**, induction of contractions in rubbed and intact aorta, influence of vascular endothelium, **89**, 819
- , reduced sensitivity to pressor effects in alloxan-treated diabetic rats, **89**, 613
- U50488**, induction of diuresis in rats, effect of demedullation, **89**, 593
- UK-14,304**, effect on acid secretory responses of rat isolated gastric mucosa to electrical field stimulation, **89**, 361
- , induction of contractions in rubbed and intact aorta, influence of vascular endothelium, **89**, 819
- Ulcer**, effects of inhibitors of arachidonic acid metabolism in the rat, **89**, 415

- Uric acid derivatives**, role in diabetics, **89**, 469  
**Urine excretion**, effects of M320 in rats, **89**, 759  
**Uterus**, rat, oestrogen and anti-oestrogen stimulated, effect of mepyramine and ranitidine, **89**, 251

## V

- Vagotomy**, effect on gastric motility and secretion stimulated by systemic baclofen in the rat, **89**, 461  
**Vas deferens**, guinea-pig, mouse and rat, actions of  $\alpha$ , $\beta$ -methylene adenosine triphosphate and 6-hydroxydopamine on sympathetic neurotransmission, **89**, 647  
 —, rat, activation and desensitization of presynaptic  $\alpha_2$ -adrenoceptors after inhibition of neuronal uptake by antidepressant drugs, **89**, 673  
 —, rat, opioid inhibition of adenylate cyclase, **89**, 109  
**Vascular smooth muscle**, guinea-pig, arylazido aminopropionyl adenosine triphosphate inhibition of excitatory junction potential, **89**, 3  
 —, rabbit, relationship between NA-induced contraction and  $^{45}\text{Ca}$  efflux stimulation, **89**, 739  
**Vasoactive-intestinal peptide**, effects on the longitudinal muscle of the mouse distal colon, **89**, 599  
 —, role in control of pulmonary vascular tone investigated by functional response, immunocytochemical localization and receptor autoradiography in bovine pulmonary artery, **89**, 157  
**Vasodilatation**, induced by nitric oxide, bovine retractor penis inhibitory factor or nitrovasodilators in rabbit aorta, mechanisms of inhibition by haemoglobin, **89**, 563  
 —, induced by vasoactive intestinal peptide in bovine pulmonary artery, **89**, 157  
 —, induced in relaxed isolates arteries of the dog by TRK-100, **89**, 703  
 —, neurogenic, electrophysiological analysis in the isolated lingual artery of the rabbit, **89**, 157  
**Vasodilators**, haemodynamic and metabolic effects in dogs, **89**, 313  
**Ventricle**, human, mode of action of (–)-pindolol, **89**, 207  
**Ventricular rate**, effects of  $\beta$ -adrenoceptor antagonist stereoisomers in conscious atrio-ventricular blocked dogs, **89**, 119  
**Verapamil**, effect on action potential conduction and transmitter release in guinea-pig vas deferens, **89**, 235  
 —, effect on basal renin secretion in rat renal cortex, **89**, 173  
 —, effect on gastric emptying and acid secretion in the rat *in vivo*, **89**, 627  
 —, effect on human pregnant myometrium contractility, **89**, 515

- , effect on tetrodotoxin-sensitive,  $\text{K}^+$ -induced relaxation of guinea-pig trachealis, **89**, 27  
 —, inhibition of KCl-induced contractions in smooth muscle of rabbit and rat aortae and guinea-pig taenia caeci, **89**, 423  
**Verapamil enantiomers**, mechanism of action against ischaemia-induced arrhythmias in the conscious rat, **89**, 137  
**Voltammetry**, *in vivo*, measurement of effects of 8-hydroxy-2-(*n*-dipropylamino) tetralin on 5-HT release and metabolism in rat suprachiasmatic nucleus, **89**, 277

## W

- W7**, antiarrhythmic and electrophysiological effects, **89**, 603

## X

- Xylazine**, interactions with noradrenaline vasoconstrictor responses in rat superior mesenteric arterial bed, **89**, 779

## Y

- Yohimbine**, antagonism of clonidine reduced release of GABA from guinea-pig isolated small intestine, **89**, 787  
 —, blockade of 5-methoxy-*N,N*-dimethyl-tryptamine-induced analgesia in rats, **89**, 293  
 —, effect on cardiovascular responses of herring gull to phenylephrine or clonidine, **89**, 477  
 —, effect on concentration-response curve to 5-HT in human saphenous vein, **89**, 77  
 —, effect on ouabain-induced arrhythmias and cardiac arrest in guinea-pig, **89**, 385  
 —, effect on phenylephrine-induced hyperglycaemia in conscious fasted rabbits, **89**, 55  
 —, interactions with noradrenaline vasoconstrictor responses in rat superior mesenteric arterial bed, **89**, 779  
 —, reduction of contractions induced by catecholamines in smooth muscle from rainbow trout stomach, **89**, 259

## Z

- Zymosan**, induction of inflammation of the rabbit peritoneal cavity, kinetics of the generation and action of chemical mediators, **89**, 719

# MEETINGS CALENDAR

**1-4 December 1986**

**Latin American Congress in Pharmacology**, Buenos Aires. (Contact to be announced.)

**15-17 December 1986**

**HPLC Analysis of Small Molecules (Short Course)**. Nottingham, U.K. (Dr. G.W. Bennett, Dept of Physiology & Pharmacology, Queens Medical Centre, Clifton Boulevard, Nottingham, NG7 2UH.)

**16 December 1986**

**Society for Drug Research Meeting on Nucleoside Chemistry and Biology**, London, U.K. (Mrs B. Cavilla, Institute of Biology, 20 Queensbury Place, London.)

**17-19 December 1986**

**British Pharmacological Society, Winter meeting**. London, U.K. (Closed meeting for Members and Guests).

**10-13 February 1987**

**International Symposium of calcium antagonists**. New York, U.S.A. (New York Academy of Sciences, Conference Dept., 2 East 63rd Street, New York, U.S.A.)

**21-27 February 1987**

**CETUS-UCLA Symposium on Pharmacology & Toxicology of Proteins**. California USA. (UCLA Symposia, Molecular Biology Institute, Univ. of California, Los Angeles, CA 90024, U.S.A.)

**9-11 March 1987**

**The Molecular Basis of Drug Action. New directions and methodologies**. Noordwijkerhout, Netherlands. (Prof. W. Soudijn, Centre for Bio-Pharmaceutical Sciences, PO Box 9502, 2300 RA Leiden, Netherlands).

**18-20 March 1987**

**International Symposium on New Concepts in Depression**. Castres, France. (Dr. M. Briley, Dept. of Biochemical pharmacology, Centre de Recherche Pierre Fabre, 17 Avenue Jean Moulin, 81100 Castres, France).

**26 March 1987**

**International Conference on New Directions in Affective Disorders**. Jerusalem, Israel. (Dr. B. Lerer, International Ltd., 12 Shlomzion Hamalka Street, Jerusalem 94146, Israel).

**5-10 April 1987**

**New Directions in Affective Disorders**, Jerusalem, Israel. (Secretariat, 12 Achlomzion Hamalka Str., Jerusalem 94146, Israel.)

**7-10 April 1987**

**International Symposium on Analysis of Neurotransmitters**. Stockholm, Sweden. (Swedish Academy of Pharmaceutical Sciences, PO Box 1136, S-111 81, Stockholm, Sweden.)

**8-10 April 1987**

**British Pharmacological Society Spring Meeting**. Cambridge U.K. (Closed meeting for Members and Guests)

**13-15 April 1987**

**International Symposium on new trends in ageing research**. Sirmione, Italy. (Prof. G. Pepeu, SMID., Viale Morgani 2/B, 50134 Florence, Italy.)

**2-6 May 1987**

**Molecular Aspects of Membrane Transport**. Alberta, Canada. (Dr. J. Weiner, Dept. of Biochemistry, University of Alberta, Edmonton, Alberta, Canada.)

**7 May 1987**

**2nd Messengers - Signalling Future Areas for Drug Research**. London, U.K. Secretariat, Society of Chemical Industry, 14/15 Belgrave Square, London.)

**7-8 May 1987**

**European College of Neuropsychopharmacology meeting**. Denmark. (Dr. P. Beck, Department of Psychiatry, Frederiksborg General Hospital, DK-3400 Hillerod, Denmark.)

**10-16 May 1987**

**International Neurotoxicology Association. First meeting**. Lunteren, Holland. (Dr. J. Hooisma, Medical Biological Laboratory, Lange Kleiweg 137, PO Box 45, 2280 AA, Rijswijk, Holland.)

**4-19 June 1987**

**Sixth International Catecholamine Symposium**. Jerusalem, Israel. (Secretariat, POB 983, Jerusalem 91009, Israel.)

**22-24 July 1987**

**Brain Research Association & Alzheimers Disease Society joint meeting on Alzheimers Disease**. Southampton, U.K. (Dr. J. Hardy, Dept of Biochemistry, St. Mary's Hosp. Medical School, London W2 1PG.)

**2-7 August 1987**

**Fifth World Congress on Pain**. Hamburg, W. Germany (Fifth World Congress on Pain, c/o Hamburg Messe und Congress GmbH, Postfach 30 24 80, 2000 Hamburg 36, W. Germany.)

**16-21 August 1987**

**IBRO Second World Congress of Neuroscience**. Budapest, Hungary. (Congress Secretariat, H-1476 Budapest, 100 POB 40, Hungary.)

**17–21 August 1987**

**7th International Symposium on Microsomes and Drug Oxidations.** Adelaide, Australia. (Secretariat, Dept. of Clinical Pharmacology, Flinders Medical Centre, Bedford Park 5042, Adelaide.)

**19–21 August 1987**

**Satellite Symposium of IUPHAR Congress. Amino Acid Transmitters,** Canberra, Australia. (Prof. D.R. Curtis, Dept of Pharmacology, JCSMR, GPO Box 334, Canberra City, A.C.T. 2601, Australia.)

**23–28 August 1987**

**IUPHAR 10th International Congress of Pharmacology,** Sydney, Australia (The Secretariat, 10th IUPHAR Congress, GPO Box 2609, Sydney, NSW 2001, Australia.)

**30 August–2 September 1987**

**6th International Symposium on Vascular Neuroeffector Mechanisms,** Melbourne, Australia. (Mr. H. Majewski and Dr. D. Story, Department of Pharmacology, University of Melbourne, Parkville, Victoria 3052, Australia.)

**31 August–2 September 1987**

**Satellite Symposium of IUPHAR Congress. Dopamine '87: Dopamine systems and their regulation,** Hunter Valley, Australia. (Dr. P.M. Beart, Dept of Medicine, Austin Hospital, Heidelberg, VIC 3084, Australia.)

**31 August–2 September 1987**

**Satellite Symposium of IUPHAR Congress. International Symposium on Physiology and Pharmacology of Adenosine and Adenine Nucleotides.** Auckland, New Zealand. (Prof. D.M. Paton, Dept. of Pharmacology, University of Auckland, Private Bag, Auckland, New Zealand.)

**31 August–4 September 1987**

**International Narcotics Research Conference.** Adelaide, Australia. (Dr. S. Johnson, c/o 1987 INRC Secretariat, PO Box 153, Nairne, S. Australia.)

**31 August–5 September 1987**

**Xth International Symposium on neurosecretion.** Bristol, U.K. (Neurosecretion Symposium Secretary, Department of Anatomy, Medical School, University of Bristol, Bristol BS8 1TD, U.K.)

**4–6 September 1987**

**Satellite Symposium of IUPHAR Congress. International Symposium on Nicotine.** Gold Coast, Queensland, Australia. (Prof. M. Rand, Dept. of Pharmacology, University of Melbourne, Victoria 3052, Australia.)

**4–6 September 1987**

**Satellite Symposium of IUPHAR Congress. International Symposium on Serotonin.** Sydney, Australia. (Dr. E.J. Mylecharane, Dept. of Pharmacology, University of Sydney, NSW 2006, Australia.)

**6–10 September 1987**

**Symposium on Recent advances in Receptor Chemistry.** Camerino (MC), Italy. (Prof. C. Melchiorre, Dept of Chemical Sciences, University of Camerino, 63032, Camerino (MC), Italy.)

**16–18 September 1987**

**British Pharmacological Society Autumn Meeting.** Oxford, U.K. (Closed meeting for Members and Guests.)

**30 September 1987**

**How Good are Human Volunteers as Models for Drug Action.** London, U.K. (Mrs. B. Cavilla, SDR Secretariat, 20 Queensbury Place, London SW7 2DZ, U.K.)

**6–8 January 1988**

**British Pharmacological Society Winter Meeting.** London U.K. (Closed meeting for Members and Guests.)

**12–17 June 1988**

**European Society for Neurochemistry seventh general meeting.** Göteborg, Sweden. (ESN Meeting Secretariat, Kongresshuset AB, Östra Hamngatan 45, S-411 10 Göteborg, Sweden.)

## INSTRUCTIONS TO AUTHORS

Whilst every effort is made by the publishers and editorial committee to see that no inaccurate or misleading data, opinion or statement appears in this Journal, they wish to make it clear that the data and opinions appearing in the articles and advertisements herein are the responsibility of the contributor or advertiser concerned. Accordingly the publishers and the editorial committee and their respective employees, officers and agents accept no liability whatsoever for the consequences of any such inaccurate or misleading data, opinion or statement.

Papers will be considered for publication in all fields of pharmacology.

**Before submitting a manuscript, authors must note the following points since failure to comply with instructions will lead to either delay or rejection of the manuscript. Overseas authors may find it helpful to seek advice from a Corresponding Editor in their country before submitting a manuscript for consideration.**

1. **Manuscripts** (2 copies) should be sent to Dr G.M. Lees, Editorial Office, University of Aberdeen, Marischal College, Aberdeen AB9 1AS. The manuscript must be typed in double spacing on one side of paper, not larger than A4 (210 × 297 mm). There should be a separate title page with the names of authors (in alphabetical order) and their appropriate addresses. One first name of each author may be included.

2. **Style** Papers must be submitted in the style of the journal (see any recent issue of the journal) and in accordance with the Instructions to Authors published in *Br. J. Pharmac.* (1984), **81**, 3–10. (Copies of these instructions may be obtained from Dr Lees.)

3. **Statement** The manuscript must be accompanied by the following statement: 'This manuscript has not been nor will be published in whole or in part by any other journal.' The statement may be included as part of the accompanying letter which must be signed by all authors. No paper will be accepted without this statement and the signature of each author.

4. **Summary** (2 copies) This should be a short summary of results and conclusions arranged in numbered paragraphs.

5. **Short title** A short (running) title of not more than 50 letters and spaces should be submitted. This may be typed on the title page.

6. **Figures** These should not be larger than A4 (210 × 297 mm) and may be in the form of original drawings, recorded tracings or high quality photographic prints made from them. Negative prints of kymograph tracings (black on white) should be provided and both ordinates and abscissae should be calibrated. Lettering on figures should be inserted in pencil. Symbols which are to appear in figures or legends should be chosen from the following:

○ ● □ ■ △ ▲ ▽ ▼ ◇ ◆ + ×

Photographs and photomicrographs should be printed on glossy paper and should be larger than the size required for reproduction. Each figure legend should be typed on a separate sheet of paper.

7. **Tables** These should generally have not more than 85 characters to a line (counting spaces between columns as 4 characters) and never more than 110 characters to a line. Each table should be typed on a separate sheet of paper.

8. **References** These must be collected in alphabetical order at the end of the paper. They should include the authors' names, year of publication (in brackets), title of article, title of publication (abbreviated in accordance with the most recent edition of the *World List of Scientific Periodicals*), volume number and first and last page numbers. References to books should, in addition, include the names of editors, the edition number (where appropriate), the town of origin then the name of publisher. Where citation is made to a paper 'in press' the paper should if possible, accompany the manuscript, as an aid to the editor and referee.

9. **Short Communications** These will be accepted if they merit priority publication and do not require revision. They may contain up to 1,200 words of text including references and only one figure or table. The summary should be a single paragraph. A statement must be included.

10. **Key Words** Up to ten key words or phrases of two to three words should be displayed on the title page.

**Two page proofs** will be supplied, one of which may be retained by the authors. The other should be corrected immediately and returned to the Press Editor. Corrections should be kept to a minimum.

**Twenty-five reprints** will be supplied to the authors free of charge. Additional reprints can be purchased. A reprint order form, which should be returned promptly, will be sent out with the proofs. If reprints will not be available from the author, a note to this effect may be added at the end of the text.

# British Journal of Pharmacology

VOLUME 89 NUMBER 4 DECEMBER 1986

## PAPERS

- 627 BRAGE, R., CORTIJO, J., ESPLUGUES, J., ESPLUGUES, J.V., MARTI-BONMATI, E., & RODRIGUEZ, C. Effects of calcium channel blockers on gastric emptying and acid secretion of the rat *in vivo*
- 635 PARRATT, J.R., SALEH, S. & WATON, N.G. Feline endotoxin shock: effects on tissue histamine and histidine decarboxylase activity
- 641 GRIMA, M., SCHWARTZ, J., SPACH, M.O. & VELLY, J. Anti-anginal arylalkylamines and sodium channels: [<sup>3</sup>H]-batrachotoxinin-A 20- $\alpha$ -benzoate and [<sup>3</sup>H]-tetracaine binding
- 647 ALLCORN, R.J., CUNNANE, T.C. & KIRKPATRICK, K. Actions of  $\alpha,\beta$ -methylene ATP and 6-hydroxydopamine on sympathetic neurotransmission in the vas deferens of the guinea-pig, rat and mouse: support for co-transmission
- 661 ROBERTSON, B. & ROWLAND TAYLOR, W. Effects of  $\gamma$ -aminobutyric acid and (-)-baclofen on calcium and potassium currents in cat dorsal root ganglion neurones *in vitro*
- 673 GARCIA-SEVILLA, J.A. & ZUBIETA, J.K. Activation and desensitization of presynaptic  $\alpha_2$ -adrenoceptors after inhibition of neuronal uptake by antidepressant drugs in the rat vas deferens
- 685 BHATT, J.D. & GULATI, O.D. The role of the sympathetic nervous system in oestrogen-induced hypertension in rats
- 693 PHILLIS, J.W. Potentiation of the depression by adenosine of rat cerebral cortical neurones by progestational agents
- 703 AKIBA, T., MIYAZAKI, M. & TODA, N. Vasodilator actions of TRK-100, a new prostaglandin I<sub>2</sub> analogue
- 713 BARRON, B.A. & HEXUM, T.D. Muscarinic receptor modulation of release of [Met<sup>5</sup>]enkephalin immunoreactive material and catecholamines from the bovine adrenal gland
- 719 FORREST, M.J., JOSE, P.J. & WILLIAMS, T.J. Kinetics of the generation and action of chemical mediators in zymosan-induced inflammation of the rabbit peritoneal cavity
- 731 ATCHISON, W.D., LUKE, V.S., NARAHASHI, T. & VOGEL, S.M. Nerve membrane sodium channels as the target site of brevetoxins at neuromuscular junctions
- 739 LEIJTEN, P.A.A. & VAN BREEMEN, C. The relationship between noradrenaline-induced contraction and <sup>45</sup>Ca efflux stimulation in rabbit mesenteric artery
- 749 NAKAYA, H. & TOHSE, N. Electrophysiological effects of acetyl glyceryl ether phosphorylcholine on cardiac tissues: comparison with lysophosphatidylcholine and long chain acyl carnitine
- 759 ABRAHAMS, J.M., BOURA, A.L.A., EVANS, R.G., JOHNSTON, C.I. & OLLEY, J.E. The effects of N-(cyclopropylmethyl)-19-isopentyl-norovrinol (M320), a potent agonist at  $\kappa$ - and  $\mu$ -opiate receptors, on urine excretion of rats
- 769 SHIMIZU, I. & TODA, N. Alterations with age of the response to vasodilator agents in isolated mesenteric arteries of the beagle
- 779 HILEY, C.R., NICHOLS, A.J. & THOMAS, G.R. Interactions between noradrenaline and  $\alpha_2$ -adrenoceptor agonists in the superior mesenteric arterial bed of the rat
- 787 HASHIMOTO, S., TANAKA, C. & TANIYAMA, K. Presynaptic muscarinic and  $\alpha$ -adrenoceptor-mediated regulation of GABA release from myenteric neurones of the guinea-pig small intestine
- 793 McCAIG, D.J. Electrophysiology of neuroeffector transmission in the isolated, innervated trachea of the guinea-pig
- 803 HEAGERTY, A.M., OLLERENSHAW, J.D. & SWALES, J.D. Abnormal vascular phosphoinositide hydrolysis in the spontaneously hypertensive rat
- 809 CARSWELL, H. & YOUNG, J.M. Regional variation in the characteristics of histamine H<sub>1</sub>-agonist mediated breakdown of inositol phospholipids in guinea-pig brain
- 819 BULLOCK, G.R., TAYLOR, S.G. & WESTON, A.H. Influence of the vascular endothelium on agonist-induced contractions and relaxations in rat aorta
- 831 CRITCHLEY, J.A.J.H., ELLIS, P., HENDERSON, C.G., UNGAR, A. & WEST, C.P. Muscarinic and nicotinic mechanisms in the responses of the adrenal medulla of the dog and cat to reflex stimuli and to cholinomimetic drugs
- 837 BARLOW, R.B. & SHEPHERD, M.K. A further search for selective antagonists at M<sub>2</sub>-muscarinic receptors
- 845 CONZELMANN, U., MEYER, D.K. & SPERK, G. Stimulation of receptors of  $\gamma$ -aminobutyric acid modulates the release of cholecystokinin-like immunoreactivity from slices of rat neostriatum
- 853 ANTONELLI, T., BEANI, L., BIANCHI, C., RANDO, S., SIMONATO, M. & TANGANELLI, S. Cortical acetylcholine release is increased and  $\gamma$ -aminobutyric acid outflow is reduced during morphine withdrawal
- 861 HADHÁZY, P. & MAGYAR, K. Feedback control of arterial smooth muscle tone: the role of prostacyclin
- 865 VOLUME INDEX

CUMULATIVE CONTENTS

MEETINGS CALENDAR