

# Edited for the British Pharmacological Society by

A.W. Cuthbert (*Chairman*)                      A. Ungar (*Secretary*)  
Margaret Day (*Press Editor*)  
J.D. Stephenson (*Assistant Press Editor*)

W.G. Bisset	B.J. Large
T.B. Bolton	G.M. Lees
D.A. Brown	G.P. Lewis
B.A. Callingham	I.H.M. Main
T.J. Crow	K. Martin
F. de Matteis	D.F.J. Mason
V. Eisen	E.K. Matthews
E.W. Gill	P.A. Nasmyth
A.F. Green	J.R. Parratt
A.R. Green	C.D. Richards
Margerethe Holzbauer	M. Sandler
J. Hughes	A.P. Silverman
R. Jones	M.A. Simmonds
J.S. Kelly	R.A. Webster

---

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

Manuscripts (two copies) should be sent to Dr H.M. Adam, Department of Pharmacology, University of Edinburgh Medical School, 1 George Square, Edinburgh EH8 9JZ. Authors should consult the instructions inside the back cover.

*The British Journal of Pharmacology* is published monthly by Macmillan Journals Ltd, 4 Little Essex Street, London WC2R 3LF. Telephone: 01-836 6633. ISSN 0007-1188.

Annual subscription £45.00 (USA & Canada \$99. Rest of world \$92). (Orders must be accompanied by remittance. Prices correct at time of publication.)

Cheques should be made payable to Macmillan Journals Limited: Subscription Department, Brunel Road, Basingstoke, Hampshire RG21 2XS, England.

Enquiries concerning advertising space and rates should be addressed to: Advertisement Department, Macmillan Journals Limited, 4 Little Essex Street, London WC2R 3LF. Telephone: 01-836 6633.

Copyright © 1977 by the *British Journal of Pharmacology*. All rights of reproduction are reserved in respect of all papers, articles, illustrations, etc., published in this journal in all countries of the world.

Second class postage paid at New York, N.Y.  
US Mailing Agent, Expeditors of the Printed Word, Ltd,  
527 Madison Avenue, New York, NY 10022.

# British Journal of Pharmacology

EDITED FOR  
THE BRITISH PHARMACOLOGICAL SOCIETY  
BY

A. W. Cuthbert (*Chairman*)      H. M. Adam (*Secretary*)  
Margaret Day (*Press Editor*)  
J. D. Stephenson (*Assistant Press Editor*)

A. M. Barrett	J. S. Kelly
W. G. Bisset	G. M. Lees
T. B. Bolton	G. P. Lewis
D. A. Brown	I. H. M. Main
D. A. Callingham	E. K. Matthews
T. J. Crow	J. F. Mitchell
F. de Matteis	P. A. Nasmyth
C. T. Dollery	M. W. Parkes
V. Eisen	M. Sandler
E. W. Gill	A. P. Silverman
A. F. Green	M. A. Simmonds
D. F. Hawkins	F. M. Sullivan
Margarethe Holzbauer	A. Ungar
D. B. Hope	R. A. Webster

VOLUME 59, 1977

LONDON  
MACMILLAN JOURNALS LIMITED  
4 LITTLE ESSEX STREET, WC2R 3LF

# INSTRUCTIONS TO AUTHORS

Papers will be considered for publication on all aspects of drug action, including chemotherapy. A recent issue of the Journal is a good guide to style.

Manuscripts (two copies) should be sent to Dr H.M. Adam, Department of Pharmacology, University of Edinburgh Medical School, 1 George Square, Edinburgh, EH8 9JZ, from whom copies of the full Instructions to Authors, published in *Br. J. Pharmac.* **50**, 3-23, may also be obtained. Specific points to note are:

1. **Manuscript** should be typed in double spacing on one side of paper not larger than A4 (206 x 294 mm). There should be a separate title page giving the names and addresses of the authors in **alphabetical order**. A short title of not more than 50 letters should also be suggested.
2. **Statement** Papers are accepted only if accompanied by a statement that they have not been and will not be published in whole or in part in any other Journal.
3. **Summary** (2 copies) This should be a short summary of results and conclusions arranged in numbered paragraphs.
4. **Abstract** (2 copies) An abstract of about 100 words suitable for inclusion in an abstracting journal should be typed on a separate sheet, giving the author's name and address and the title of the paper.
5. **Figures** These should not be larger than A4 (206 x 294 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.

6. **Tables** These should not have more than 85 characters to a line (counting spaces between columns as 4 characters) and certainly not more than 110 characters to a line, unless absolutely unavoidable. **Figure legends** and **tables** should be typed on separate sheets of paper.

7. **References** These should 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 fourth 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, and the town of origin and name of publisher.

**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. No reprints of abstracts are supplied.

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

- 3 BRITTON, B.J., IRVING, M.H. & WOOD, W.G. Effects of adrenoceptor blockade on plasma catecholamine levels during adrenaline infusion
- 11 LAYCOCK, J.F. & LEWIS, A.F. Potentiation of the response to vasopressin (Pitressin) by treatment with a combination of chlorpropamide and chlorothiazide in Brattleboro rats with hereditary hypothalamic diabetes insipidus
- 17 CONOLLY, M.E. & GREENACRE, J.K. The  $\beta$ -adrenoceptor of the human lymphocyte and human lung parenchyma
- 25 FERRI, S., REINA, R. & SANTAGOSTINO, A. Dopamine and the depressant action of morphine on stimulated guinea-pig ileum
- 29 CHAMPION, G.D., DAY, R.O., RAY, J.E. & WADE, D.N. The effect of non-steroidal anti-inflammatory drugs on adenosine triphosphate content and histamine release from rat peritoneal cell suspensions rich in mast cells
- 35 JONES, M.T. & TIPTAFT, ELIZABETH M. Structure-activity relationship of various corticosteroids on the feedback control of corticotrophin secretion
- 43 CARPENTER, F.G. Atropine resistance and muscarinic receptors in the rat urinary bladder
- 51 BROADLEY, K.J. & LUMLEY, P. Selective reserpine-induced supersensitivity of the positive inotropic and chronotropic responses to isoprenaline and salbutamol in guinea-pig isolated atria
- 61 ARVIER, P.T., CHAHL, LORIS A. & LADD, R.J. Modification by capsaicin and compound 48/80 of dye leakage induced by irritants in the rat
- 69 SCHWARZENFELD, I. VON & WHITTAKER, V.P. The pharmacological properties of the cholinergic false transmitter, *N*-2-acetoxyethyl-*N*-methylpyrrolidinium, and its precursor, *N*-2-hydroxyethyl-*N*-methylpyrrolidinium
- 75 BENFEY, B.G. Theophylline and phenylephrine effects on cardiac relaxation
- 83 COLEMAN, A.J. & SOMERVILLE, A.R. The selective action of  $\beta$ -adrenoceptor blocking drugs and the nature of  $\beta_1$  and  $\beta_2$  adrenoceptors
- 95 WENNMAALM, A. Nicotine stimulates prostaglandin formation in the rabbit heart
- 101 DUTTA, S., MARKS, B.H. & SCHOENER, E.P. Accumulation of radioactive cardiac glycosides by various brain regions in relation to the dysrhythmogenic effect
- 107 MITCHELL, SHEILA, POYSER, N.L. & WILSON, N.H. Effect of *p*-bromophenacyl bromide, an inhibitor of phospholipase  $A_2$ , on arachidonic acid release and prostaglandin synthesis by the guinea-pig uterus *in vitro*
- 115 EHRENFELD, J. & GARCIA-ROMEY, F. Effect of harmaline on sodium transport in *Rana esculenta* skin
- 123 BAKHLE, Y.S. Pulmonary metabolism of bradykinin analogues and the contribution of angiotensin converting enzyme to bradykinin inactivation in isolated lungs
- 129 MOULDS, R.F.W. A comparison of the effects of sodium thiocyanate and dantrolene sodium on a mammalian isolated skeletal muscle
- 135 LOAKPRADIT, T. & LOCKWOOD, R. Differentiation of metabolic adrenoceptors
- 141 D'MELLO, G. & STOLERMAN, I.P. Interaction of cocaine with chlordiazepoxide assessed by motor activity in mice
- 147 RICHARDSON, P.D.I. & WITHRINGTON, P.G. The effects of glucagon, secretin, pancreozymin and pentagastrin on the hepatic arterial vascular bed of the dog
- 157 HASHIZUME, Y., HIDAKA, H. & YAMAKI, T. Effect of anti-thyroid agents, methimazole and propylthiouracil, on brain noradrenaline content
- 163 JENKINSON, D.H. & KOLLER, KARIN. Interactions between the effects of  $\alpha$ - and  $\beta$ -adrenoceptor agonists and adenine nucleotides on the membrane potential of cells in guinea-pig liver slices
- 177 KUNOS, G. Thyroid hormone-dependent inter-conversion of myocardial  $\alpha$ - and  $\beta$ -adrenoceptors in the rat
- 191 FENWICK, LINDA, JONES, R.L., NAYLOR, B., POYSER, N.L. & WILSON, N.H. Production of prostaglandins by the pseudopregnant rat uterus, *in vitro*, and the effect of tamoxifen with the identification of 6-keto-prostaglandin  $F_{1\alpha}$  as a major product
- 201 CHAND, N. & EYRE, P. Anaphylactic contraction of pulmonary blood vessels of chicken
- 209 BOULTON, A.A., JUORIO, A.V., PHILIPS, S.R. & WU, P.H. The effects of reserpine and 6-hydroxydopamine on the concentrations of some arylalkylamines in rat brain

## SHORT COMMUNICATIONS

- 215 SILINSKY, E.M. Can barium support the release of acetylcholine by nerve impulses?
- 218 JOHNSTON, G.A.R. & TWITCHIN, B. Stereospecificity of 2,4-diaminobutyric acid with respect to inhibition of 4-aminobutyric acid uptake and binding