

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

---

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.

Annual subscription £30.00 (£35.50 USA and Canada). (Payment may be made in any currency at the current exchange rate. Orders must be accompanied by remittance. Prices applicable only to orders received before 31st December 1975.)

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 © 1975 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.

# 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

W. G. Bisset

T. B. Bolton

P. B. Bradley

D. A. Brown

D. A. Callingham

T. J. Crow

F. de Matteis

C. T. Dollery

V. Eisen

E. W. Gill

A. F. Green

D. F. Hawkins

Margarethe Holzbauer

D. B. Hope

J. S. Kelly

G. M. Lees

G. P. Lewis

I. H. M. Main

E. K. Matthews

J. F. Mitchell

P. A. Nasmyth

M. W. Parkes

M. Sandler

A. P. Silverman

M. A. Simmonds

F. M. Sullivan

A. Ungar

R. A. Webster

VOLUME 53, 1975

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 *International Abstracts of Biological Sciences* 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** Exactly as for full papers, except that the Summary should only be a single paragraph. There must not be more than 1,200 words in the communication and only one figure or one table.

# British Journal of Pharmacology

VOLUME 53 NUMBER 1 JANUARY 1975

page

## Systematic Pharmacology

- 3 MURNAGHAN, M.F. The effect of sympathomimetic amines on the ventricular fibrillation threshold in the rabbit isolated heart.
- 11 GRAYSON, J. & SCOTT, C. The action of nitroglycerine and dipyridamole in normal and ischaemic dog heart.
- 21 METCALF, G. & THOMPSON, J.W. The effect of various amine-depleting drugs on the fever response exhibited by rabbits to bacterial or leucocyte pyrogen.
- 29 BEVAN, P., BRADSHAW, C.M. & SZABADI, E. The effect of tricyclic antidepressants on cholinergic responses of single cortical neurones.
- 37 MARLEY, E. & WHELAN, JENNIFER E. Some central effects of 5-hydroxytryptamine in young chickens at and below thermoneutrality.

## Autopharmacology

- 43 ADLER-GRASCHINSKY, EDDA & LANGER, S.Z. Possible role of a  $\beta$ -adrenoceptor in the regulation of noradrenaline release by nerve stimulation through a positive feed-back mechanism.
- 51 KRAFT, E. & ZIMMERMAN, B.G. Influence of histamine  $H_1$ - and  $H_2$ -receptor blockers on sympathetic vasodilator and vasoconstrictor responses in canine paw.
- 59 CROCKER, ANN D. & WILSON, K.A. A further investigation into the energy dependence of angiotensin II-induced contractions of isolated smooth muscle preparations.
- 67 JOHNS, E.J., RICHARDS, H.K. & SINGER, BERTHA. Effects of adrenaline, noradrenaline, isoprenaline and salbutamol on the production and release of renin by isolated renal cortical cells of the cat.
- 75 LEME, J. GARCIA & SCHAPOVAL, ELFRIDES E.S. Stimulation of the hypothalamo-pituitary-adrenal axis by compounds formed in inflamed tissue.

## Miscellaneous

- 85 ATKINSON, D.C. & HICKS, R. The possible occurrence of endogenous anti-inflammatory substances in the blood of injured rats.

## Pharmacokinetics

- 93 LOVELESS, A.H. & MAXWELL, D.R. The prevention by sulphhydryl compounds of the toxicity in the cat of 2,6-dimethoxyphenol and its morpholinopropionyl ester.
- 99 LULLMANN, H., PETERS, T. & RAVENS URSULA. Studies on the kinetics of [ $^3H$ ]-ouabain uptake and exchange in the isolated papillary muscle of the guinea-pig.
- 109 FOSTER, R.W. & O'DONNELL STELLA R. Evidence that adrenergic nerves are responsible for the active uptake of noradrenaline in the guinea-pig isolated trachea.

## Drug Mechanisms

- 113 NORTHOVER, B.J. Effect of anti-inflammatory drugs on the membrane potential of vascular endothelial cells *in vitro*.
- 121 BOULLIN, D.J., GRAHAME-SMITH, D.G., GRIMES, R.P.J. & WOODS, H.F. Inhibition of 5-hydroxytryptamine-induced human blood platelet aggregation by chlorpromazine and its metabolites.
- 127 HÅKANSON, R., HEDENBRO, J., LIEBERG, G., REHFELD, J.F. & STADIL, F. Activation of histidine decarboxylase by  $H_2$ -receptor blockade: mechanism of action.
- 131 KOSTERLITZ, H.W. & WATERFIELD, ANGELA A. An analysis of the phenomenon of acute tolerance to morphine in the guinea-pig isolated ileum.

## Pharmacometrics

- 139 BARLOW, R.B. Use of the logistic function for the calculation of dose-ratios and potency ratios.
- 143 PEARSON, J.D.M. & SHARMAN, D.F. The estimation of 3,4-dihydroxyphenylacetic acid, homovanillic acid and homo-isovanillic acid in nervous tissue by gas-liquid chromatography and electron capture detection.
- 149 SHORT COMMUNICATIONS