J. Physiol. Biochem., Vol. 53 (3), 265-342 Revista española de Fisiología Pampiona, September 1997 ISSN 0034-9402 – JPBIF2

# Journal of Physiology and Biochemistry

revista española de Fisiología

## JOURNAL OF PHYSIOLOGY AND BIOCHEMISTRY (Revista española de Fisiología)

#### Published by

#### ASOCIACIÓN REVISTA ESPAÑOLA DE FISIOLOGÍA (Departamento de Fisiología y Nutrición. Universidad de Navarra)

#### Editor in Chief: F. PONZ Assistant Editor: A. BARBER

#### **Editorial Board**

M. Alemany C. Alonso-Villaverde J. Balasch C. Belmonte J. Bolufer J. A. Cabezas E. Cadenas J. Carreras L. Cornudella I. del Río J. Mª Delgado-García F. Fernández del Campo M. P. Fernández-Otero J. Flórez L. Franco-Vera J. M. Gandarias J. A. García-García F. García-Hegardt F. García-Olmedo E. García-Peregrín

F. Giráldez-Orgaz R. Goberna S. González-Barón L. M. Gonzalo Sanz F. Mª Goñi E. Herrera M. Illera R. Jordana J. Larralde S. Lluch M. A. López J. López-Barneo N. López-Moratalla J. M. López-Novoa D. Mir M. Moretó A. Núñez I. Núñez de Castro L. Palacios

J. Palomeque R. Parés J. Peña J. Prieto A. Purroy T. Quesada J. M. Recio F. Reinoso E. Rocha M. Ruiz-Amil M. Sánchez-Ayuso M. Sánchez-Campos E. Santiago S. Santidrián R. Segura-Cardona A. Sillero A. Torralba Y. Valladares J. Mª Vega-Piqueres V. Vicente

#### Editorial Assistant: A. RUBIO

Address: REVISTA ESPAÑOLA DE FISIOLOGÍA, Apartado 177, 31080 Pamplona (Spain). Tel. 948 / 42 56 00 (ext. 6259 and 6337). Fax 948 / 42 56 49.

Journal of Physiology and Biochemistry (Revista Española de Fisiología) publishes original research works, not previously published in other Journals, on the subjects of Human, normal and pathological Physiology, Animal and Comparative Physiology, and Biochemistry.

The Book Review Section reports on the publications on Physiology and Biochemistry or related subjects which are sent to the Editorial Staff of the Journal.

Four issues are published each year, which constitute one volume.

Yearly suscription price: 14500 Pta in Spain, 18000 Pta in other countries.

# JOURNAL OF PHYSIOLOGY AND BIOCHEMISTRY

(Revista española de Fisiología)

Depósito legal: B. 118-1958

J. Physiol. Biochem., 1997 Revista española de Fisiología

#### INFORMATION FOR AUTHORS

Only original papers will be considered. Manuscripts are accepted for review with the understanding that the same work has not been published, and that it is not under consideration for publication elsewhere.

Authors must send three complete copies of their manuscripts to the Editor of Journal of Physiology and Biochemistry (Revista Española de Fisiología), Apartado 177, 31080 Pamplona (Spain); (Tel. 948-42 56 00; Fax 948-42 56 49). The letter submitting the paper has to be signed by all the authors and should include the names and address of two possible referees from other institutions. The Editorial Board will evaluate the text and will accept or reject it or make the appropriate remarks to the author.

*Manuscripts* should be typed in English, with normal size print, double-spaced, single-sided, with wide margins and numbered pages not exceeding 21 cm x 30 cm. Tables, Figures and Legends should appear in separate sheets of paper. The top copy should include one set of high-quality illustrations for the printer. As to the letter type, underline as follows: <u>italics</u>, <u>boldface</u>, small <u>CAPITALS</u>, Roman <u>CAPITALS</u>.

Papers should follow this order: Title, Abstract with Key words, Introduction, Materials and Methods, Results, Discussion, Acnowledgements, and References. The text should be written in the third person.

Page 1 should contain: Title, the name(s) and affiliation(s) of the author(s), a short title (< 40 characters and spaces) and full name and address. Telephone and fax numbers for editorial queries.

The *Title* should be brief (< 115 characters and spaces) but informative.

The Abstract must be written in English and Spanish and should not exceed 250 words. It must be self-explanatory and apt for reproduction in Abstract reviews.

The Key words for indexing may be 3-6 taken from Index medicus.

The Introduction must be short, with just the unavoidable references to state the purpose of the work in relation to other work in the field.

Materials and Methods should include enough data to permit reproduction of the experiments, but avoiding details published elsewhere for which references are sufficient.

*Results* must be concise and clearly expressed. Unnecessary repetition of data found in tables and figures should be avoided.

Tables should be kept to a minimum. Each table should be typed on a separate sheet and numbered in Roman numerals. Headings should have a title; the experimental conditions and general remarks should appear between the title and the table. Tables should contain as few rows and columns as possible. Whenever possible, data should be statistically elaborated. Figures should be limited to a minimum. They should be lightly labelled in soft pencil on the back to indicate the figure number, the authors'names and the top of the figure. Drawings and graphs should be drawn with India Ink on good quality white or vegetal paper, but glossy prints of black on white computer print-outs are acceptable. Figures should be about twice the final size, and occupy as little space as possible. Graphic registers should be made with the minimum of black areas. Letters, symbols and numbers in drawings and photograps must be large enough to retain a minimum height of 1.5 mm after the appropriate reductions to a column width (6.3 cm) or rarely to a width (13 cm). Very small dots and fine lines should be avoided since they may be lost in reproduction. The author will assume the expenses of colour prints if they are necessary.

Figure legends must appear on a separate sheet at the end of the manuscript, and be comprehensible without reference to the text. The approximate place of tables and figures must be indicated on the margin of the text.

The Discussion must be written with objectivity and conciseness, avoiding gratuitous hypotheses or excessive references.

*References* may be cited in the text by numbers according to the list at the end of the text. All references are listed and numbered alphabetically by first author. Each entry includes the names and initials of all the authors, the publication year in parentheses, the abbreviated title of the periodical as internationally used, the volume number in arabic numerals, and the first and last page number. If the reference corresponds to a book, its author, publication year, complete title, publisher, and city must be written. When the author of a chapter of a book is quoted, there must follow the complete reference of the book with its editor and the first and last pages of the chapter. Personal communications and unpublished observations should not be cited in the list of references, but may be noted in parenthesis in the text.

Short communications should contain results of immediate importance that require urgent publication. They must deal with facts solidly established, and not with first results. The Editorial Board will be especially strict in this section. Maximum extension will not exceed 6,000 letters and spaces, counting text, figures and references. Title, name and address of authors must appear as in ordinary paper. They should not usually have subtitles. An Abstract should not be included, although the last lines of the text should summarize the conclusions.

In animal or human experimentation supporting the results, all the Legal and Ethics requirements should be observed.

Reader proofs will be sent to the authors for corrections, who will be charged for alterations with respect to the original text. They should be return within eight days, otherwise the Editorial Board may decide its publication postponement or execute the corrections without assuming responsability for possible errors.

Publishing the article will require the payment of 1800 Pta for each printed page, with the right to receiving 50 reprints.

### OBITUARY

After a few months' illness, Professor Marcelino Lluch, deputy editor of the *Revista Española de Fisiología* (now *Journal of Physiology and Biochemistry*) for more than forty years, passed away last August 30th. Born in Barcelona in 1924, was Doctor in Pharmacy, Scientific Collaborator and Research Professor of the Spanish C.S.I.C., and Professor of the University of Navarra.

He carried out his function at this journal, first at Barcelona, then at Pamplona, from 1956 until his retirement in 1990. His qualities of scientific rigor, generous dedication, kind simplicity and endless patience were very appreciated by all our collaborators and were also critical for the regular publication of the issues. Prof. Lluch also made many original contributions chiefly to the field of non-electrolyte intestinal absorption, and taught courses of Physiology and Pharmacology at the University of Navarra.

On giving the news of his death, we express our deep sorrow, would like to pay Prof. Lluch a tribute of acknowledgement, and invite our readers to pray for his eternal rest. i