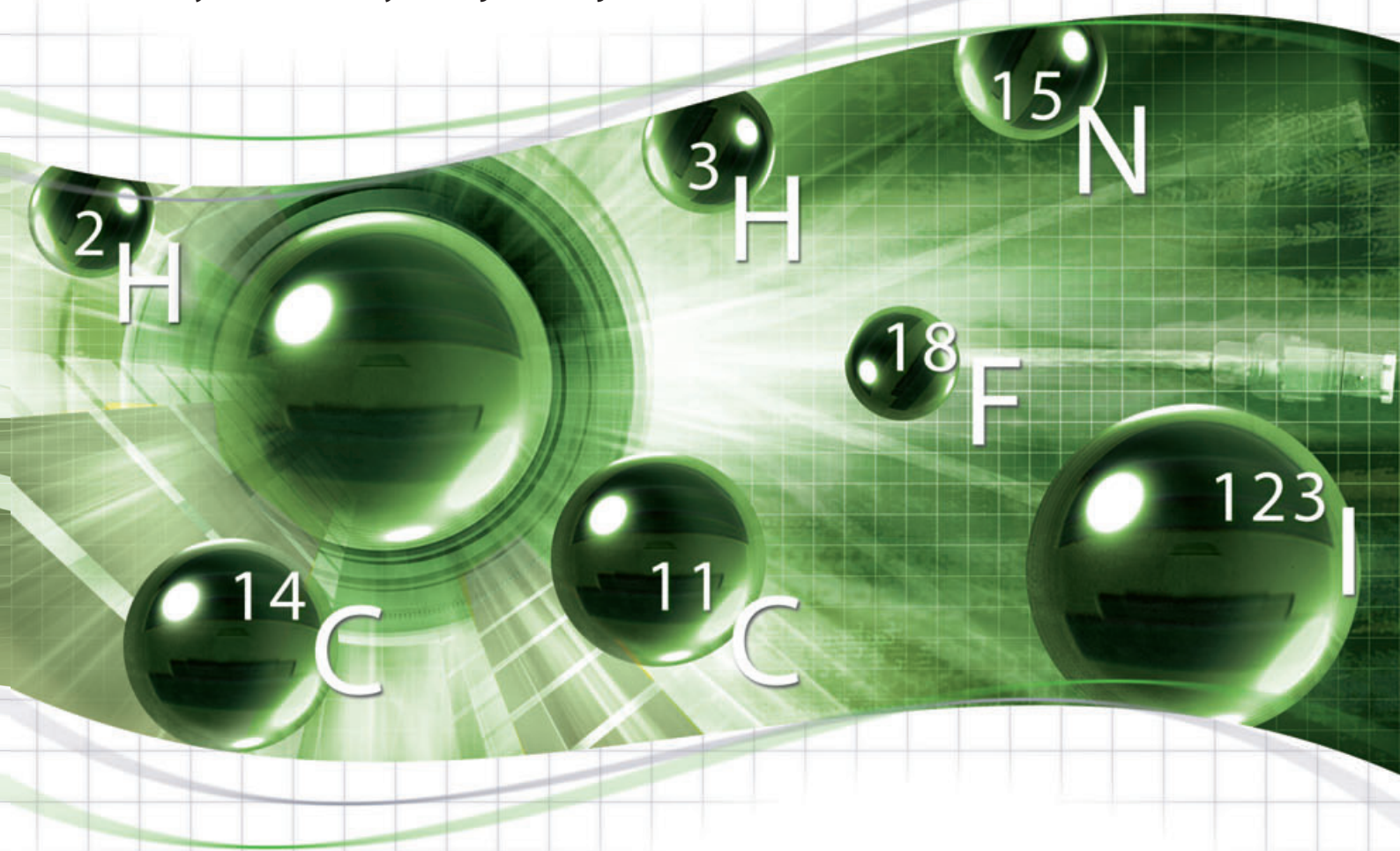


Journal of
**Labelled Compounds and
Radiopharmaceuticals**

wileyonlinelibrary.com/journal/jlcr



JLCRD 55(1); 55(2)
ISSN 0362-4803

Volume 55
Number 1, January 2012 and Number 2, February 2012

Discover this journal online at

 WILEY  ONLINE LIBRARY
wileyonlinelibrary.com/journal/jlcr

Journal of
**Labelled Compounds and
Radiopharmaceuticals**

Editorial Board

EDITOR-IN-CHIEF

Ken Lawrie

Isotope & Oligonucleotide Chemistry
GlaxoSmithKline
Stevenage, UK

RADIOPHARMACEUTICALS

Bob Dannals

Division of Nuclear Medicine
Johns Hopkins Medicine
Baltimore, USA

Bengt Långström

Dept of Biochemistry &
Organic Chemistry
Uppsala University
Uppsala, Sweden

Imperial College Centre
for Pharmacology &
Therapeutics Division of
Experimental Medicine
London, UK

Dept of Nuclear Medicine
PET & Cyclotron Unit
University of Southern
Denmark Odense, Denmark

Michael Kassiou

Drug Discovery Research
Unit University of Sydney
Camperdown, Australia

REVIEWS

Franklin Aigbirhio

Wolfson Brain Imaging Centre
University of Cambridge
Cambridge, UK

ISOTOPE LABELLING

Ken Lawrie

GlaxoSmithKline
Stevenage, UK

Bill Wheeler

Isotopesolutions
Indianapolis, USA

Thomas Moenius

Isotope Laboratory
Novartis Basel, Switzerland

WILEY EDITOR:

Martin Röthlisberger

PUBLISHING ASSISTANT:

Faith Pidduck

JOURNAL PRODUCTION MANAGER:

Carol Ann McNelis

CONTENT EDITOR:

Michael Aron G. Pasia
Email: mapasia@wiley.com

PUBLISHERS:

John Wiley & Sons, Ltd.
Journal of Labelled Compounds and
Radiopharmaceuticals
The Atrium
Southern Gate
Chichester PO19 8SQ
United Kingdom

MANUSCRIPT SUBMISSIONS:

<http://mc.manuscriptcentral.com/jlcr>

MARKETING:

Amanda Smith
Email: amasmith@wiley.co.uk

ADVERTISING:

Advertisement Sales Department
Telephone: +44 (0) 1243 770 254
Fax: +44 (0) 1243 770 432
Email: adsales@wiley.co.uk

COMMERCIAL REPRINTS:

Email: corporatesaleseurope@wiley.com;
corporatesalesusa@wiley.com; or
corporatesalesaustralia@wiley.com

AUTHOR REPRINTS (50–300 COPIES):

Order online: <http://offprint.cosprinters.com/blackwell>
Email: offprint@cosprinters.com

COPYRIGHT PERMISSIONS:

permreq@wiley.co.uk

PUBLICATION:

14 issues in 2012

© 2012 John Wiley & Sons, Ltd.
Chichester, UK

Identification Statement

JOURNAL OF LABELLED COMPOUNDS AND RADIOPHARMACEUTICALS (Print ISSN 0362-4803, Online ISSN 1099-1344) is published monthly, except July plus an additional issue in May, June, & September (total 14 issues). US mailing agent: Mercury Airfreight International Inc., 365 Blair Road, Avenel, NJ 07001, USA. Periodical postage paid at Rahway, NJ. Postmaster: Send all address changes to *JOURNAL OF LABELLED COMPOUNDS AND RADIOPHARMACEUTICALS*, John Wiley & Sons Inc., 111 River Street, Hoboken, NJ 07030, USA.

EDITORIAL ADVISORY BOARD

J Allen

Sanofi Aventis R & D
Chilly Mazarin, France

J Atzrodt

R&D Sanofi Aventis Deutschland
Frankfurt am Main, Germany

E Buncel

Dept of Chemistry Queens University
Kingston, Canada

M Chapelle

Quotient Bioresearch
Cardiff, Wales

D Y Chi

Dept of Chemistry Sogang University
Seoul, Korea

H H Coenen

Institute für Nuklearchemie
Frankfurt, Germany

F Dollé

Institut d'Imagerie BioMédicale
Service Hospitalier Frédéric Joliot
Orsay, France

C N Filer

Perkin Elmer Life Sciences Inc
Boston, USA

Yasuhisa Fujibayashi

National Institute of Radiological Sciences
Chiba, Japan

J R Harding

Drug Metabolism & Pharmacokinetics
AstraZeneca
Macclesfield, UK

D Hesk

Merck Research Laboratories
Rahway, USA

G W Kabalka

Dept of Chemistry
University of Tennessee
Knoxville, USA

J A Katzenellenbogen,

Dept of Chemistry
University of Illinois
Urbana, USA

H F Kung

Dept of Radiology
University of Pennsylvania
Philadelphia, USA

W J S Lockley

School of Biological & Molecular Sciences
University of Surrey
Guildford, UK

M H Marx

Aptuit Inc
Kansas City, USA

B Maxwell

Bristol Myers Squibb
Princeton, USA

N F Myasoedov

Institute of Molecular Genetics
Russian Academy of Sciences
Moscow, Russia

V W Pike

PET Radiopharmaceutical Sciences
National Institute of Mental Health
Bethesda, USA

U Pleiss

Bayer Healthcare AG
Wuppertal, Germany

H Saji

Graduate School of Pharmaceutical Science
Kyoto University
Kyoto, Japan

R Salter

Pharmaceutical R & D Johnson & Johnson
Raritan, USA

D Saunders

IsoSciences LLC
King of Prussia, USA

S Stone-Elander

Clinical Neurosciences Division
Karolinska Pharmacy
Stockholm, Sweden

A B Susan

International Isotope Clearing House
Shawnee Mission, USA

M L Thakur

Radiology & Radiation Oncology
Thomas Jefferson University
Philadelphia, USA

M Venkatesh

Radiopharmaceutical Division
Homi Bhabha National Institute
Mumbai, India

R Voges

Novartis
Lörrach, Germany

C L Willis

Dept of Chemistry Bristol University
Bristol, UK

A Windhorst

VU University Medical Center
Amsterdam, The Netherlands

M R Zalutsky

Radiology & Bioengineering
Duke University Medical Center
Durham, USA

X Zhang

Laboratory of Radiopharmaceuticals
Beijing Normal University
Beijing, China

Journal of
**Labelled Compounds and
Radiopharmaceuticals**

Aims & Scope

The Official Journal of the *International Isotope Society*

The *Journal of Labelled Compounds and Radiopharmaceuticals* publishes original scientific manuscripts dealing with all aspects of research in labelled compound preparation and application. This includes areas such as analytical control, self radiolysis, quality control handling, storage, and tracer methods used in chemical, biochemical, biological, pharmacological, medical, genetic, agricultural and geochemical research. All radionuclides and enriched stable nuclides are included.

The *Journal of Labelled Compounds and Radiopharmaceuticals* devotes particular attention to the following fields: radionuclide production; cyclotron targetry; neutron irradiation methodology; precursor preparation and production; labelling synthesis (chemical, biochemical, radiation, isotope exchange, etc); automation of nuclide production, precursor, preparation and synthesis; analysis (methods, limitations, etc. for both radioactive and stable nuclides, including new detection techniques); radiopharmaceuticals; PET chemistry; quality control (an essential requirement for valid data and especially for radiopharmaceuticals); stability and storage problems; handling of Curie and multiCurie amounts of radioactivity; etc.

JLCR Award for Young Scientists: The *Journal of Labelled Compounds and Radiopharmaceuticals*, in cooperation with the International Isotope Society Conferences and the International Conferences on Radiopharmaceutical Sciences, sponsor every year four Awards to early excellence in radiopharmaceutical research and isotope labelling.

Copyright Statement

Copyright © 2012 John Wiley & Sons, Ltd. No part of this publication may be reproduced, stored or transmitted in any form or by any means without the prior permission in writing from the copyright holder. Authorization to photocopy items for internal and personal use is granted by the copyright holder for libraries and other users registered with their local Reproduction Rights Organisation (RRO), e.g. Copyright Clearance Center (CCC), 222 Rosewood Drive, Danvers, MA 01923, USA (www.copyright.com), provided the appropriate fee is paid directly to the RRO. This consent does not extend to other kinds of copying such as copying for general distribution, for advertising or promotional purposes, for creating new collective works or for resale. Special requests should be addressed to: permissionsuk@wiley.com