The American Journal of Physiology-Heart and Circulatory Physiology

Editor: William C. Stanley

Senior Associate Editor: David A. Kass

Associate Editors:
Ivor J. Benjamin
Mordecai P. Bлаustein
Meredith Bond
Leon J. de Windt
Christine Des Rosiers
Igor R. Efimov
Nancy L. Kanagy
Masahumi Kitakaze
Ronglih Liao
Gary D. Lopaschuk
Fabio A. Recchia
Junichi Sadoshima
Ayaj M. Shah
Wiworth G. Wier
Irvings H. Zacker

Consulting Editors:
Penelope A. Boyden
David Gutterman
Robert L. Hester
Steven P. Jones
John Longhurst
Zoltan Ungvari
Yulin Liao
Alberto Nasjletti
Michael S. Wolin
Merry Lindsey

Editorial Board:
Christian Aaldaarja
Ellen Assam
Tetsuro Ago
Fadi Akar
Barbara T. Alexander
John A. Auchampach
Peter H. Backx
Christopher P. Baines
Susan M. Barman
Daniel A. Beard
Luc Bertrand
Burns C. Blaurock
Ralf Peter Brandes
Joseph E. Brayden
Paul S. Brooks
Virginia L. Brooks
Yan Burelle
Candido Cabo
Hua L. Cui
John M. Canty, Jr.
John C. Chatham
Hepping Cheng
Nipun Chamvimonvat
George J. Crystal
Deborah H. Damon
Roger A. L. Dampney
Sandra T. Davidge
Michael J. Davis
Buddhadeb Dey
Pieter P. de Tombe
Lea M. Delbridge
Kevin C. Dellsperger
Anne M. Dorrance
Heather S. Duffly
Dirk J. Dzoljic
Walter N. Durkin
Jason R. B. Dyck
Philip Eaton
M. Faadil Eissop
Paul L. Fadel
Frank M. Faraci
Gregory D. Fink

Copyright © 2013 by the American Physiological Society. Inc., 222 Rosewood Dr., Danvers, MA 01923. All rights reserved. No part of this publication may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopying, recording, or any information storage and retrieval system, without permission in writing from the publisher. No patent responsibility is assumed by the American Physiological Society or any of its employees or contributors and not of the American Physiological Society. The appearance of advertisements in the journal is not a warranty, endorsement, or approval of the products or their safety. The American Physiological Society disclaims responsibility for any injury to persons or property resulting from any ideas or products referred to in any article or advertisement.

The American Journal of Physiology-Heart and Circulatory Physiology (ISSN-0363-6135) is published bimonthly online at www.ajpheart.org (ISSN 1522-1539) (two volumes a year) by the American Physiological Society, 9650 Rockville Pike, Bethesda, MD 20814-3991. Subscription Prices (postpaid): For institutional print and online pricing, please see http://www.the-aps.org/publications/subs/. Nonmember individual (online only): $72/00. APS members: online is free. Print back issues when available, through December 2011: Subscriber, $65 each; nonsubscriber, $120 each. Subscriptions from outside the United States are payable in US currency or full equivalent. Subscriptions are accepted on a calendar-year basis only. Periodicals postage paid at Bethesda, MD, and at additional mailing offices. Copyright © 2013 by the American Physiological Society. Printed in the United States of America by Cadmus Communications—Lancaster Division, Lancaster, PA 17601. The code at the bottom of the first page of an article indicates the copyright owner’s consent that copies of that article may be made beyond that permitted by sections 107 and 108 of the US Copyright Law—unless the copies are for general distribution, for advertising, for creating new works, or for resale—provided the per-copy fee is paid through the Copyright Clearance Center, Inc., 222 Rosewood Dr., Danvers, MA 02023.

Editorial and Business Correspondence: AJP-Heart and Circulatory Physiology, 9650 Rockville Pike, Bethesda, MD 20814-3991.

Disclaimer: The statements and opinions contained in the articles of the American Journal of Physiology-Heart and Circulatory Physiology are solely those of the individual authors and contributors and not of the American Physiological Society. The appearance of advertisements in the journal is not a warranty, endorsement, or approval of the products or their safety. The American Physiological Society disclaims responsibility for any injury to persons or property resulting from any ideas or products referred to in any article or advertisement.

Copyright © 2013 by the American Physiological Society. Inc., 222 Rosewood Dr., Danvers, MA 01923. All rights reserved. No part of this publication may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopying, recording, or any information storage and retrieval system, without permission in writing from the publisher. No patent responsibility is assumed by the American Physiological Society or any of its employees or contributors and not of the American Physiological Society. The appearance of advertisements in the journal is not a warranty, endorsement, or approval of the products or their safety. The American Physiological Society disclaims responsibility for any injury to persons or property resulting from any ideas or products referred to in any article or advertisement.

The American Journal of Physiology-Heart and Circulatory Physiology (ISSN-0363-6135) is published bimonthly online at www.ajpheart.org (ISSN 1522-1539) (two volumes a year) by the American Physiological Society, 9650 Rockville Pike, Bethesda, MD 20814-3991. Subscription Prices (postpaid): For institutional print and online pricing, please see http://www.the-aps.org/publications/subs/. Nonmember individual (online only): $72/00. APS members: online is free. Print back issues when available, through December 2011: Subscriber, $65 each; nonsubscriber, $120 each. Subscriptions from outside the United States are payable in US currency or full equivalent. Subscriptions are accepted on a calendar-year basis only. Periodicals postage paid at Bethesda, MD, and at additional mailing offices. Copyright © 2013 by the American Physiological Society. Printed in the United States of America by Cadmus Communications—Lancaster Division, Lancaster, PA 17601. The code at the bottom of the first page of an article indicates the copyright owner’s consent that copies of that article may be made beyond that permitted by sections 107 and 108 of the US Copyright Law—unless the copies are for general distribution, for advertising, for creating new works, or for resale—provided the per-copy fee is paid through the Copyright Clearance Center, Inc., 222 Rosewood Dr., Danvers, MA 02023.

Editorial and Business Correspondence: AJP-Heart and Circulatory Physiology, 9650 Rockville Pike, Bethesda, MD 20814-3991.

Disclaimer: The statements and opinions contained in the articles of the American Journal of Physiology-Heart and Circulatory Physiology are solely those of the individual authors and contributors and not of the American Physiological Society. The appearance of advertisements in the journal is not a warranty, endorsement, or approval of the products or their safety. The American Physiological Society disclaims responsibility for any injury to persons or property resulting from any ideas or products referred to in any article or advertisement.