

CONTENTS

Cited in: BIOSIS/Biological Abstracts; CAB Abstracts; Chemical Abstracts Services; Current Contents (Life Sciences); EMBASE/Excerpta Medica; International Pharmaceutical Abstracts; PUBMED/MEDLINE/Index Medicus; Polymer Contents; Science Citation Index. Also covered in the abstract and citation database Scopus®. Full text available in ScienceDirect®

COVER STORY

183-183

Implants attenuating vaginal T lymphocyte activation and inflammation

Kinam Park

Purdue University, Biomedical Engineering and Pharmaceutics, West Lafayette, IN 47907, USA

REVIEWS

1-13

Towards clinical translation of ligand-functionalized liposomes in targeted cancer therapy: Challenges and opportunities

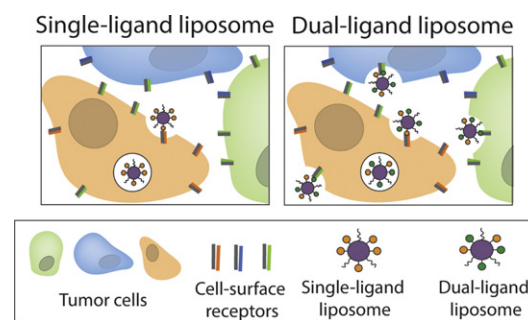
Lisa Belfiore^a, Darren N. Saunders^b, Marie Ranson^a, Kristofer J. Thurecht^c, Gert Storm^d, Kara L. Vine^a

^aIllawarra Health and Medical Research Institute, Centre for Medical and Molecular Bioscience, School of Biological Sciences, University of Wollongong, Wollongong, Australia

^bSchool of Medical Sciences, University of New South Wales, Sydney, Australia

^cAustralian Institute for Bioengineering and Nanotechnology (AIBN), Centre for Advanced Imaging (CAI), Australian Research Council Centre of Excellence in Convergent Bio-Nano Science and Technology, The University of Queensland, Brisbane, Australia

^dDepartment of Pharmaceutics, Utrecht Institute for Pharmaceutical Sciences, Utrecht University, Utrecht, CG, The Netherlands



35-47

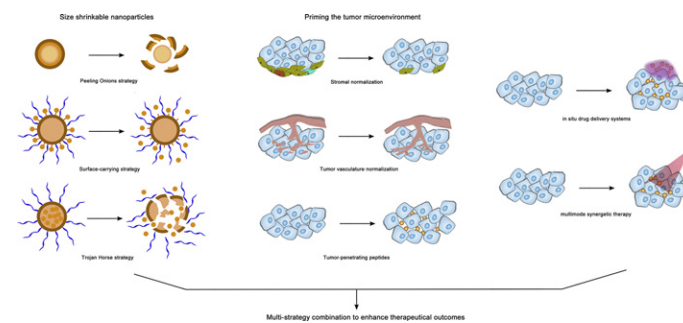
Size shrinkable drug delivery nanosystems and priming the tumor microenvironment for deep intratumoral penetration of nanoparticles

Yimin Niu^a, Jianhua Zhu^{b,c}, Yang Li^b, Huihui Shi^b, Yaxiang Gong^b, Rui Li^b, Qiang Huo^c, Tao Ma^c, Yang Liu^b

^aDepartment of Pharmacy, Zhongda Hospital, School of Medicine, Southeast University, Nanjing 210009, China

^bSchool of Pharmacy, Nanjing Medical University, Nanjing 211166, China

^cSchool of Pharmacy, Bengbu Medical College, Bengbu 233030, China



(Contents continued at inside back cover)

@ Additional material available online.



0168-3659(20180510)277:C;1-G

Available online at www.sciencedirect.com

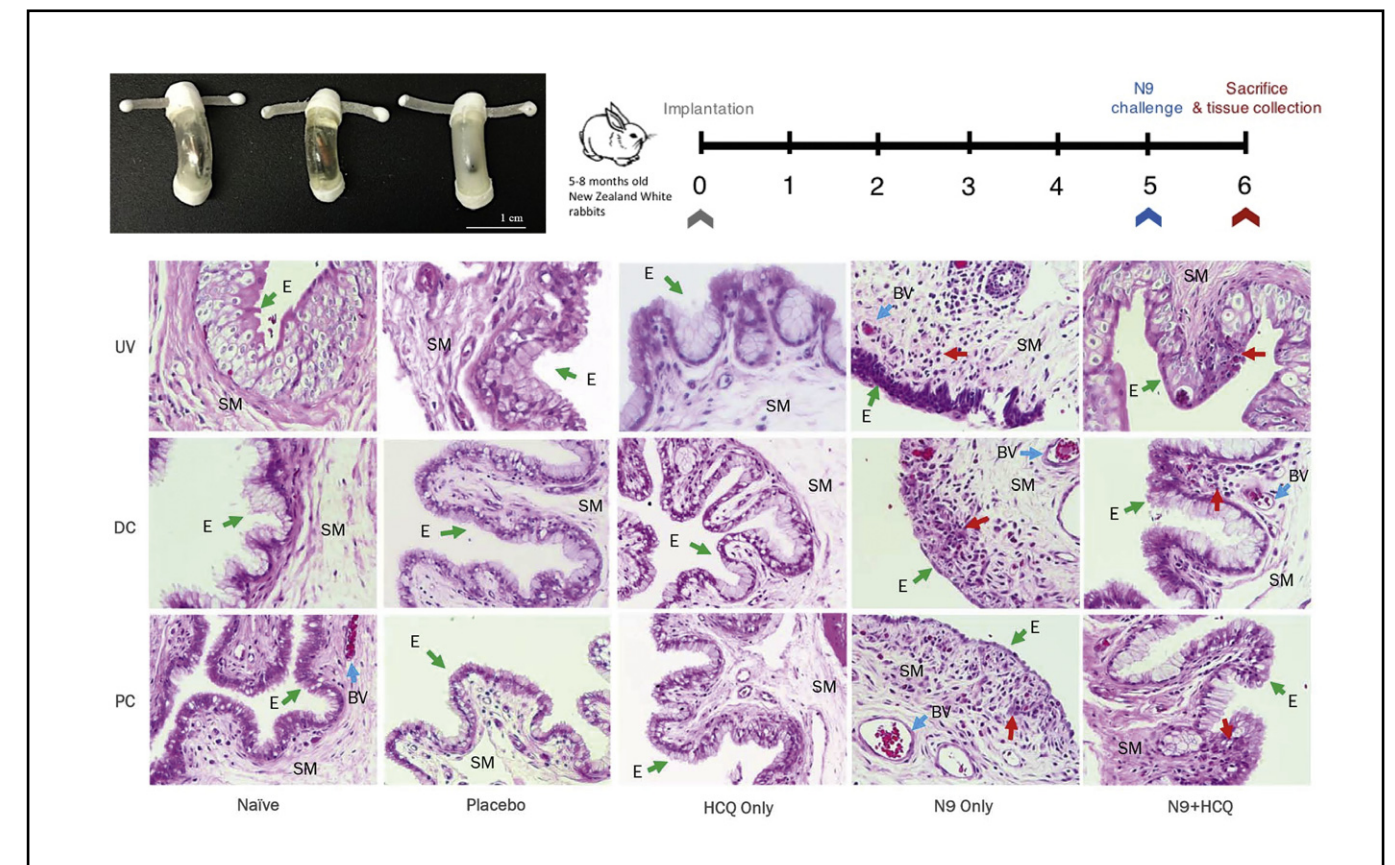
ScienceDirect

05054



journal of controlled release

OFFICIAL JOURNAL OF THE CONTROLLED RELEASE SOCIETY AND THE JAPANESE SOCIETY OF DRUG DELIVERY SYSTEM



COVER STORY

Implants attenuating vaginal T lymphocyte activation and inflammation

The *Journal of Controlled Release* (JCR) publishes high-quality research articles in the broad field of delivery science and technology. This includes drug delivery systems and all aspects of formulations, such as physicochemical and biological properties of drugs, design and characterization of dosage forms, release mechanisms, *in vivo* testing, and formulation research and development in the disciplines of pharmaceutical, diagnostic, agricultural, environmental, cosmetic, and food industries. Manuscripts that advance fundamental understanding of principles and/or demonstrate advantages of novel technologies in safety and efficacy over current clinical standards will be given priority. Each issue has the cover story highlighting the significance of a selected article published in the issue. At the end of each quarter, the JCR editors select "The Editors' Choice" from the published research articles.

© 2018 Elsevier B.V. All rights reserved.

This journal and the individual contributions contained in it are protected under copyright by Elsevier B.V., and the following terms and conditions apply to their use:

Photocopying

Single photocopies of single articles may be made for personal use as allowed by national copyright laws. Permission of the Publisher and payment of a fee is required for all other photocopying, including multiple or systematic copying, copying for advertising or promotional purposes, resale, and all forms of document delivery. Special rates are available for educational institutions that wish to make photocopies for non-profit educational classroom use.

For information on how to seek permission visit www.elsevier.com/permissions or call (+44) 1865 843830 (UK) / (+1) 215 239 3804 (USA).

Derivative Works

Subscribers may reproduce tables of contents or prepare lists of articles including abstracts for internal circulation within their institutions. Permission of the Publisher is required for resale or distribution outside the institution.

Permission of the Publisher is required for all other derivative works, including compilations and translations (please consult www.elsevier.com/permissions).

Electronic Storage or Usage

Permission of the Publisher is required to store or use electronically any material contained in this journal, including any article or part of an article (please consult www.elsevier.com/permissions).

Except as outlined above, no part of this publication may be reproduced, stored in a retrieval system or transmitted in any form or by any means, electronic, mechanical, photocopying, recording or otherwise, without prior written permission of the Publisher.

Author inquiries

You can track your submitted article at <http://www.elsevier.com/track-submission>. You can track your accepted article at <http://www.elsevier.com/trackarticle>. You are also welcome to contact Customer Support via <http://service.elsevier.com>.

Language (usage and editing services)

Please write your text in good English (American or British usage is accepted, but not a mixture of these). Authors who feel their English language manuscript may require editing to eliminate possible grammatical or spelling errors and to conform to correct scientific English may wish to use the English Language Editing service available from Elsevier's WebShop <http://webshop.elsevier.com/languageediting/> or visit our customer support site <http://service.elsevier.com> for more information.

Illustration services

Elsevier's WebShop (<http://webshop.elsevier.com/illustrationservices>) offers Illustration Services to authors preparing to submit a manuscript but concerned about the quality of the images accompanying their article. Elsevier's expert illustrators can produce scientific, technical and medical-style images, as well as a full range of charts, tables and graphs. Image 'polishing' is also available, where our illustrators take your image(s) and improve them to a professional standard. Please visit the website to find out more.

Publication information: *Journal of Controlled Release* (ISSN 0168-3659). For 2018, volumes 269–292 are scheduled for publication. Subscription prices are available upon request from the Publisher or from the Elsevier Customer Service Department nearest you or from this journal's website (<http://www.elsevier.com/locate/jconrel>). Further information is available on this journal and other Elsevier products through Elsevier's website (<http://www.elsevier.com>). Subscriptions are accepted on a prepaid basis only and are entered on a calendar year basis. Issues are sent by standard mail (surface within Europe, air delivery outside Europe). Priority rates are available upon request. Claims for missing issues should be made within six months of the date of dispatch.

Orders, claims, and journal inquiries: please contact the Elsevier Customer Service Department nearest you:

St. Louis: Elsevier Customer Service Department, 3251 Riverport Lane, Maryland Heights, MO 63043, USA; phone: (877) 8397126 [toll free within the USA]; (+1) (314) 4478878 [outside the USA]; fax: (+1) (314) 4478077; e-mail: JournalCustomerService-usa@elsevier.com

Oxford: Elsevier Customer Service Department, The Boulevard, Langford Lane, Kidlington, Oxford OX5 1GB, UK; phone: (+44) (1865) 843434; fax: (+44) (1865) 843970; e-mail: JournalsCustomerServiceEMEA@elsevier.com

Tokyo: Elsevier Customer Service Department, 4F Higashi-Azabu, 1-Chome Bldg, 1-9-15 Higashi-Azabu, Minato-ku, Tokyo 106-0044, Japan; phone: (+81) (3) 5561 5037; fax: (+81) (3) 5561 5047; e-mail: JournalsCustomerServiceJapan@elsevier.com

The Philippines: Elsevier Customer Service Department, 2nd Floor, Building H, UP-Ayalaland Technohub, Commonwealth Avenue, Diliman, Quezon City, Philippines 1101; phone: (+65) 63490222; fax: (+63) 2 352 1394; e-mail: JournalsCustomerServiceAPAC@elsevier.com

Sponsored Supplements and/or Commercial Reprints: For more information please contact Elsevier Life Sciences Commercial Sales, Radarweg 29, 1043 NX Amsterdam, The Netherlands; phone: (+31) (20) 485 2939 / 2059; e-mail: LSCS@elsevier.com

Advertising information: If you are interested in advertising or other commercial opportunities please e-mail Commercialsales@elsevier.com and your enquiry will be passed to the correct person who will respond to you within 48 hours.

USA mailing notice: *Journal of Controlled Release* (ISSN 0168-3659) is published semimonthly by Elsevier B.V., Radarweg 29, 1043 NX Amsterdam, The Netherlands. Periodicals postage paid at Jamaica, NY 11431 and additional mailing offices.

USA POSTMASTER: Send change of address to *Journal of Controlled Release*, Elsevier Customer Service Department, 3251 Riverport Lane, Maryland Heights, MO 63043, USA.

AIRFREIGHT AND MAILING in USA by Air Business Ltd., c/o Worldnet Shipping Inc., 156-15, 146th Avenue, 2nd Floor, Jamaica, NY 11434, USA.

Notice

No responsibility is assumed by the Publisher or the Controlled Release Society for any injury and/or damage to persons or property as a matter of products liability, negligence or otherwise, or from any use or operation of any methods, products, instructions or ideas contained in the material herein. Because of rapid advances in the medical sciences, in particular, independent verification of diagnoses and drug dosages should be made.

Although all advertising material is expected to conform to ethical (medical) standards, inclusion in this publication does not constitute a guarantee or endorsement of the quality or value of such product or of the claims made of it by its manufacturer.

© The paper used in this publication meets the requirements of ANSI/NISO Z39.48-1992 (Permanence of Paper)

For a full and complete Guide for Authors, please go to <http://www.elsevier.com/locate/jconrel>

(contents continued from outside back cover)

57–76

Silica based hybrid materials for drug delivery and bioimaging

Elnaz Bagheri^{a,b}, Legha Ansari^{c,d}, Khalil Abnous^a, Seyed Mohammad Taghdisi^{b,e}, Fahimeh Charbgoob^b, Mohammad Ramezani^{a,b,d}, Mona Alibolandi^a

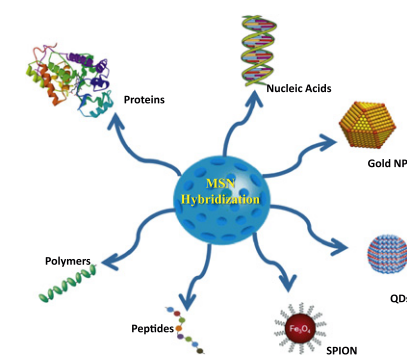
^aPharmaceutical Research Center, Pharmaceutical Technology Institute, Mashhad University of Medical Sciences, Mashhad, Iran

^bDepartment of Pharmaceutical Biotechnology, School of Pharmacy, Mashhad University of Medical Sciences, Mashhad, Iran

^cDepartment of Pharmaceutical Nanotechnology, School of Pharmacy, Mashhad University of Medical Sciences, Mashhad, Iran

^dNanotechnology Research Center, Pharmaceutical Technology Institute, Mashhad University of Medical Sciences, Mashhad, Iran

^eTargeted Drug Delivery Research Center, Pharmaceutical Technology Institute, Mashhad University of Medical Sciences, Mashhad, Iran



RESEARCH PAPERS

14–22

Ocular drug delivery targeted by iontophoresis in the suprachoroidal space using a microneedle

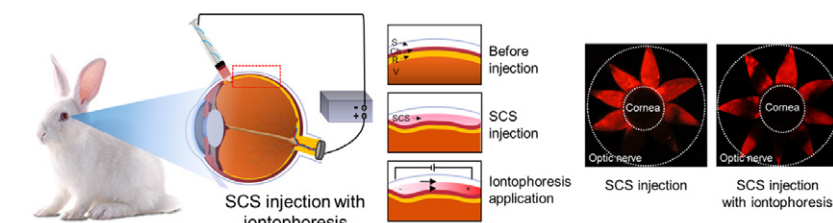
Jae Hwan Jung^a, Bryce Chiang^{b,c}, Hans E. Grossniklaus^d, Mark R. Prausnitz^{a,b}

^aSchool of Chemical and Biomolecular Engineering, Georgia Institute of Technology, Atlanta, GA 30332, USA

^bWallace H. Coulter Department of Biomedical Engineering at Georgia Tech and Emory University, Georgia Institute of Technology, Atlanta, GA 30332, USA

^cEmory University School of Medicine, Atlanta, GA 30322, USA

^dDepartment of Ophthalmology, Emory University School of Medicine, Atlanta, GA 30322, USA



23–34

Design and tuning of a cell-penetrating albumin derivative as a versatile nanovehicle for intracellular drug delivery

Shota Ichimizu^a, Hiroshi Watanabe^{a,b}, Hitoshi Maeda^a, Keisuke Hamasaki^a, Yuka Nakamura^a, Victor Tuan Giam Chuang^c, Ryo Kinoshita^a, Kento Nishida^a, Ryota Tanaka^a, Yuki Enoki^a, Yu Ishima^d, Akihiko Kuniyasu^e, Yoshihiro Kobashigawa^f, Hiroshi Morioka^f, Shiro Futaki^g, Masaki Otagiri^h, Toru Maruyama^{a,b}

^aDepartment of Biopharmaceutics, Graduate School of Pharmaceutical Sciences, Kumamoto University, 5-1 Oe-honmachi, Chuo-ku, Kumamoto 862-0973, Japan

^bCenter for Clinical Pharmaceutical Sciences, School of Pharmacy, Kumamoto University, 5-1 Oe-honmachi, Chuo-ku, Kumamoto 862-0973, Japan

^cSchool of Pharmacy, Monash University Malaysia, Jalan Lagoan Selatan, 47500 Bandar Sunway, Selangor, Malaysia

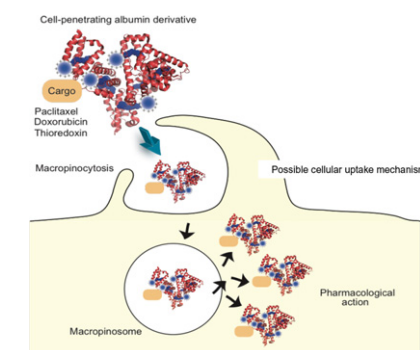
^dDepartment of Pharmacokinetics and Biopharmaceutics, Institute of Biomedical Sciences, Tokushima University, 1-78-1, Sho-machi, Tokushima 770-8505, Japan

^eDepartment of Molecular Cell Pharmacology, Faculty of Pharmaceutical Sciences, Sojo University, 4-22-1 Ikeda, Kumamoto 860-0082, Japan

^fDepartment of Analytical and Biophysical Chemistry, Graduate School of Pharmaceutical Sciences, Kumamoto University, 5-1 Oe-honmachi, Chuo-ku, Kumamoto 862-0973, Japan

^gInstitute for Chemical Research, Kyoto University, Uji, Kyoto 611-0011, Japan

^hFaculty of Pharmaceutical Sciences, DDS Research Institute, Sojo University, 1-22-4 Ikeda, Nishi-ku, Kumamoto 860-0082, Japan



(Contents continued on last page of this issue)