

Cell Research



QK2032717

Volume 30 Number 7 July 2020

www.nature.com/cr
www.cell-research.com

Structural insights into GABA_B receptor activation
Rejuvenating aged mice by a novel senolytic prodrug
A novel nuclear function for PD-L1
Structures of SIgA and its complex with a bacterial adhesin



ISSN 1001-0602



9 771001 060201

Center for Excellence in Molecular Cell Science
Chinese Academy of Sciences

SPRINGER NATURE

(Founded in 1990)

Online submission via:

<http://www.nature.com/cr>

<http://www.cell-research.com>

Cell Research is published monthly by Nature Publishing Group (NPG) in partnership with Center for Excellence in Molecular Cell Science (CEMCS), Chinese Academy of Sciences (CAS) since 2006.

Sponsored by:

Center for Excellence in Molecular Cell Science (CEMCS), CAS

© 2020 CEMCS, CAS



Affiliated with:

The Chinese Society for Cell Biology since August 2007



Granted by:

Publishing Foundation of Chinese Academy of Sciences, National Natural Science Foundation of China, and China Association for Science and Technology



Project for Enhancing International Impact of China STM Journals



Supported by SPFCAS

This journal is a member of, and subscribes to the principles of, the Committee on Publication Ethics (COPE) www.publicationethics.org



COMMITTEE ON PUBLICATION ETHICS

SPRINGER NATURE

Coordinating Editor for this issue
Jiajun Xu

EDITORIAL

553 A special review collection on autophagy

Li Yu

RESEARCH HIGHLIGHTS

554 Ubiquitinated Fanconi ID complex embraces DNA

Yathish Jagadheesh Achar, Marco Foiani

556 A β -galactosidase kiss of death for senescent cells

Xiaoqian Liu, Juan Carlos Izpisua Belmonte, Weiqi Zhang, Guang-Hui Liu

558 Secret(ory) revealed: the long-awaited structures of secretory IgA

Andrew B. Herr

560 Social dominance hierarchy: toward a genetic and evolutionary understanding

Bruce T. Lahn

562 ILC transdifferentiation: roles in cancer progression

Maryam Ghaedi, Pamela S. Ohashi

ARTICLES

564 Cryo-EM structures of inactive and active GABA_B receptor

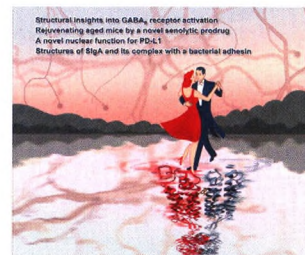
Chunyou Mao, Cangsang Shen, Chuntao Li, Dan-Dan Shen, Chanjuan Xu, Shenglan Zhang, Rui Zhou, Qingya Shen, Li-Nan Chen, Zhinong Jiang, Jianfeng Liu, Yan Zhang

574 Elimination of senescent cells by β -galactosidase-targeted prodrug attenuates inflammation and restores physical function in aged mice **Open**

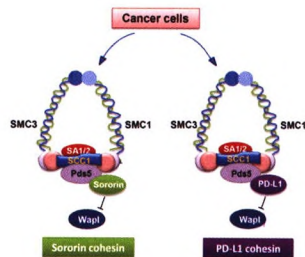
Yusheng Cai, Huanhuan Zhou, Yinhua Zhu, Qi Sun, Yin Ji, Anqi Xue, Yuting Wang, Wenhan Chen, Xiaojie Yu, Longteng Wang, Han Chen, Cheng Li, Tuoping Luo, Hongkui Deng

590 Regulation of sister chromatid cohesion by nuclear PD-L1 **Open**

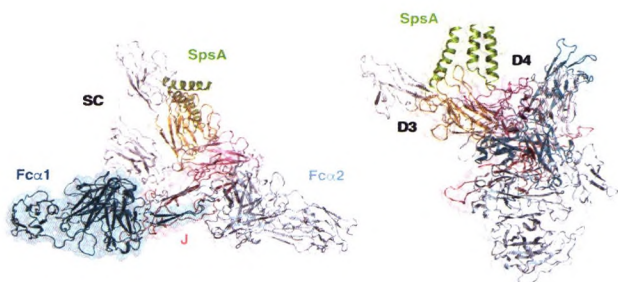
Jia Yu, Bo Qin, Ann M. Moyer, Somaira Nowsheen, Xinyi Tu, Haidong Dong, Judy C. Boughey, Matthew P. Goetz, Richard Weinshilboum, Zhenkun Lou, Liewei Wang



Cover: The main inhibitory neurotransmitter in the brain, GABA, influences neuronal and glial activity in a prolonged manner via GABA_B receptor, a prototypical class C GPCR. GABA_B receptor is an obligatory heterodimer of two subunits. They perform a complicated “pas de deux” to transduce the extracellular stimuli into cells. See page 564-573 by Chunyou Mao et al. for details.



A schematic diagram showing that PD-L1 compensates for the loss of Sororin and competes with WAPL for binding to PDS5B, thereby regulating sister chromatid cohesion in PD-L1-overexpressing cancer cells. See page 590-601 by Jia Yu et al. for details.



Two different views of the overall structure of the Fcα-J-SC-SpsA^{NTD} quadruple complex. See page 602-609 by Yuxin Wang et al. for details.

602 Structural insights into secretory immunoglobulin A and its interaction with a pneumococcal adhesin

Yuxin Wang, Guopeng Wang, Yaxin Li, Qinyu Zhu, Hao Shen, Ning Gao, Junyu Xiao

610 Transdifferentiation of tumor infiltrating innate lymphoid cells during progression of colorectal cancer

Shuo Wang, Yuan Qu, Pengyan Xia, Yi Chen, Xiaoxiao Zhu, Jing Zhang, Guan Wang, Yong Tian, Jianming Ying, Zusen Fan

LETTERS TO THE EDITOR

623 Cryo-EM structure of human bile salts exporter ABCB11

Liang Wang, Wen-Tao Hou, Li Chen, Yong-Liang Jiang, Da Xu, Linfeng Sun, Cong-Zhao Zhou, Yuxing Chen

626 The cell surface marker CD36 selectively identifies matured, mitochondria-rich hPSC-cardiomyocytes *Open*

Ellen Ngar-Yun Poon, Xiao-ling Luo, Sarah E. Webb, Bin Yan, Rui Zhao, Stanley Chun Ming Wu, Yong Yang, Peng Zhang, Huajun Bai, Jiaofang Shao, Ching Man Chan, Godfrey Chi-Fung Chan, Suk Ying Tsang, Rebekah L. Gundry, Huang-Tian Yang, Kenneth R. Boheler

CORRECTION

630 Correction: Transdifferentiation of tumor infiltrating innate lymphoid cells during progression of colorectal cancer

Shuo Wang, Yuan Qu, Pengyan Xia, Yi Chen, Xiaoxiao Zhu, Jing Zhang, Guan Wang, Yong Tian, Jianming Ying, Zusen Fan

ADVANCE ONLINE PUBLICATION

Boceprevir, GC-376, and calpain inhibitors II, XII inhibit SARS-CoV-2 viral replication by targeting the viral main protease

Chunlong Ma, Michael Dominic Sacco, Brett Hurst, Julia Alma Townsend, Yanmei Hu, Tommy Szeto, Xiujun Zhang, Bart Tarbet, Michael Thomas Marty, Yu Chen and Jun Wang

Infection with novel coronavirus (SARS-CoV-2) causes pneumonia in Rhesus macaques *Open*

Chao Shan, Yan-Feng Yao, Xing-Lou Yang, Yi-Wu Zhou, Ge Gao, Yun Peng, Lian Yang, Xue Hu, Jin Xiong, Ren-Di Jiang, Hua-Jun Zhang, Xiao-Xiao Gao, Cheng Peng, Juan Min, Ying Chen, Hao-Rui Si, Jia Wu, Peng Zhou, Yan-Yi Wang, Hong-Ping Wei, Wei Pang, Zheng-Fei Hu, Long-Bao Lv, Yong-Tang Zheng, Zheng-Li Shi and Zhi-Ming Yuan

Cell Discovery

Making publication fun for you

Cell Discovery is an open access international journal that publishes results of high significance and broad interest in all areas of molecular and cell biology. The basic bar of acceptance is comparable to prestigious society journals in the respective field of the work. It is established in 2015 as a sister journal of *Cell Research*, a high-profile international journal with a current impact of 20.507. The new impact of *Cell Discovery* is 6.255.

Authors benefit from:

- Open Access Publication – anyone can download and read your paper
- Wide exposure to a large global audience on nature.com
- Internationally renowned editors and editorial board
- Quality peer-review and fast publication
- Indexed in Scopus and PubMed Central (PMC)
Science Citation Index Expanded (SciSearch®),
Journal Citation Reports/Science Edition

Featured articles

Regulation of zebrafish dorsoventral patterning by phase separation of RNA-binding protein Rbm14
Cell Discov. 2019 Jul 23; 5:37. <https://doi.org/10.1038/s41421-019-0106-x>.

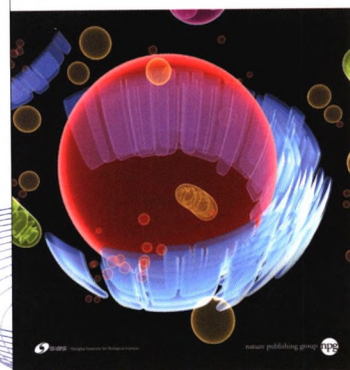
Structural insights into DNA recognition by AimR of the arbitrium communication system in the SPbeta phage
Cell Discov. 2019 May 28; 5:29. <https://www.nature.com/articles/s41421-019-0101-2>.

Generation and characterization of a novel knockin minipig model of Hutchinson-Gilford progeria syndrome
Cell Discov. 2019 Mar 19; 5:16. <https://doi.org/10.1038/s41421-019-0084-z>.

A chemical approach for global protein knockdown from mice to non-human primates
Cell Discov. 2019 Feb 5; 5:10. <https://doi.org/10.1038/s41421-018-0079-1>.

Architecture, substructures, and dynamic assembly of STRIPAK complexes in Hippo signaling
Cell Discov. 2019 Jan 8; 5:3. <https://doi.org/10.1038/s41421-018-0077-3>.

Cell Discovery



Editor-in-Chief: Gang Pei
Executive Editor: Dangsheng Li

SUBMIT

Visit www.nature.com/celldisc/
to read the Published Papers and Submit Today!