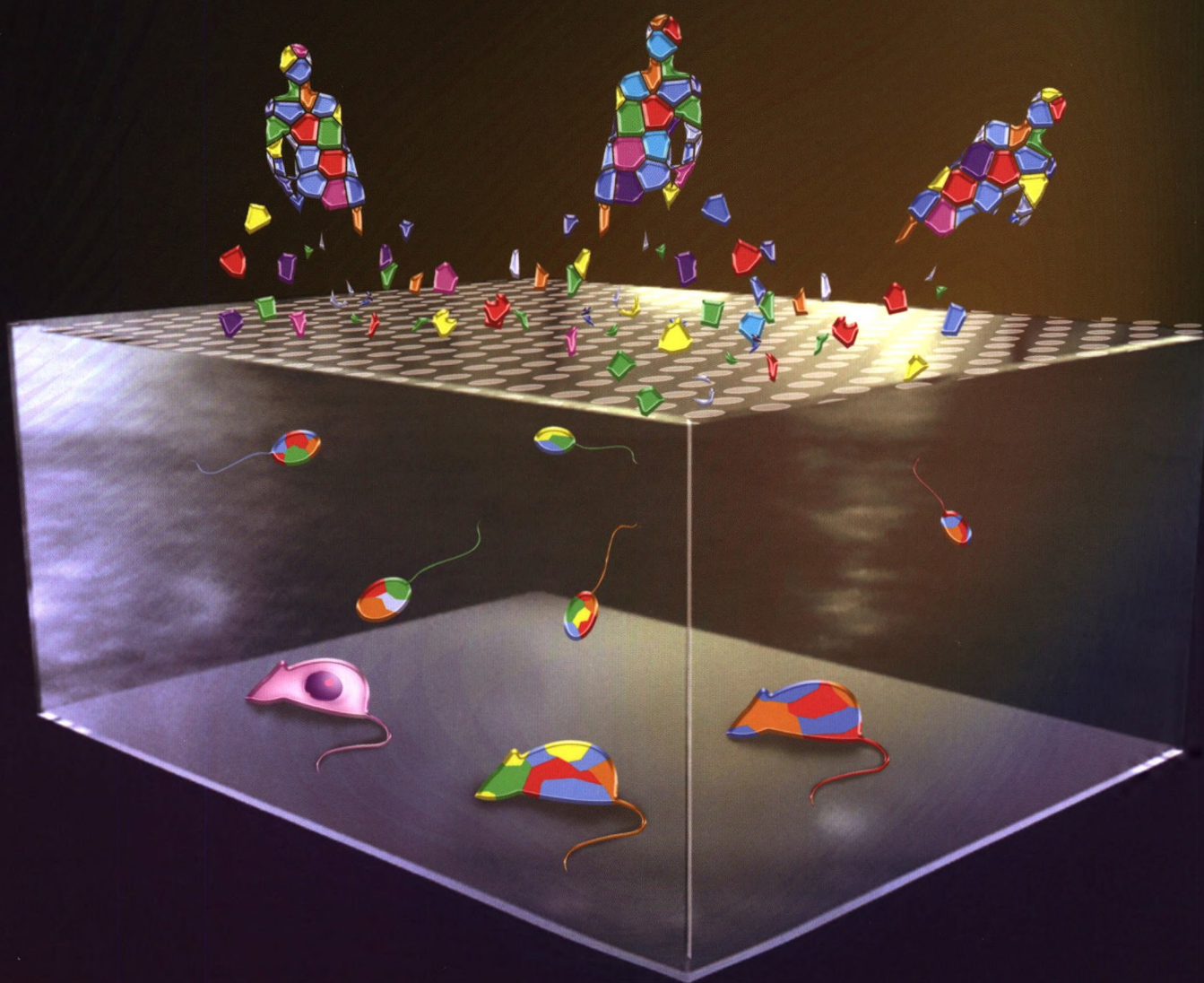


Cell Research



Volume 30 Number 2 February 2020

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



A long non-coding RNA regulates social hierarchy
A novel role of transferrin as a coagulation regulator
A new model for myotonic dystrophy type 1
Ferroptosis mediates IR-induced cell death in cancer therapy

ISSN 1001-0602



Institute of Biochemistry and Cell Biology
Shanghai Institutes for Biological Sciences
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



Supported by SPFCAS

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



SPRINGER NATURE

Coordinating Editor for this issue
Fangfang Hu

RESEARCH HIGHLIGHTS

99 New myotonic dystrophy type 1 mouse model

Yunping Lei, Richard H. Finnell

101 Transferrin: a blood coagulation modifier

Alvin H. Schmaier

103 The unfolding body plan of primate embryos in culture

Jitesh Neupane, Frederick C. K. Wong, M. Azim Surani

ARTICLES

105 A novel pathway regulates social hierarchy via lncRNA AtLAS and postsynaptic synapsin IIb

Mei Ma, Wan Xiong, Fan Hu, Man-Fei Deng, Xian Huang, Jian-Guo Chen, Heng-Ye Man, Youming Lu, Dan Liu, Ling-Qiang Zhu

119 Transferrin plays a central role in coagulation balance by interacting with clotting factors **Open**

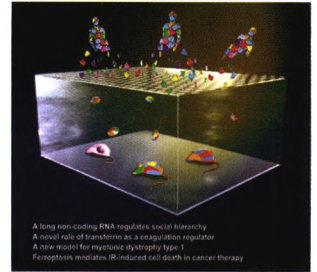
Xiaopeng Tang, Zhiye Zhang, Mingqian Fang, Yajun Han, Gan Wang, Sheng Wang, Min Xue, Yaxiong Li, Li Zhang, Jian Wu, Biqing Yang, James Mwangi, Qiumin Lu, Xiaoping Du, Ren Lai

133 Dosage effect of multiple genes accounts for multisystem disorder of myotonic dystrophy type 1 **Open**

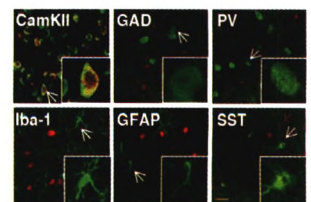
Qi Yin, Hongye Wang, Na Li, Yifu Ding, Zhenfei Xie, Lifang Jin, Yan Li, Qiong Wang, Xinyi Liu, Liuqing Xu, Qing Li, Yongjian Ma, Yanbo Cheng, Kai Wang, Cuiqing Zhong, Qian Yu, Wei Tang, Wanjin Chen, Wenjun Yang, Fan Zhang, Chen Ding, Lan Bao, Bin Zhou, Ping Hu, Jinsong Li

146 The role of ferroptosis in ionizing radiation-induced cell death and tumor suppression

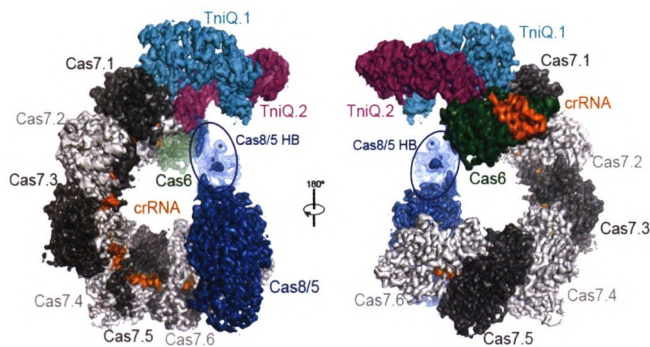
Guang Lei, Yilei Zhang, Pranavi Koppula, Xiaoguang Liu, Jie Zhang, Steven H. Lin, Jaffer A. Ajani, Qin Xiao, Zhongxing Liao, Hui Wang, Boyi Gan



Cover: 'Artificial spermatids' (androgenetic haploid embryonic stem cells) can be used to model complex human disease-related genetic defects in mouse in one step. See page 133-145 by Qi Yin et al. for details.



Distribution of lncRNA AtLAS (red) in different cell types of the medial prefrontal cortex. See page 105-118 by Mei Ma et al. for details.



Two views of the cryo-EM map of VcCascade-TniQ with each subunit color-coded. See page 179-181 by Zhuang Li et al. for details.

163 ILF3 is a substrate of SPOP for regulating serine biosynthesis in colorectal cancer *Open*

Kai Li, Jian-lin Wu, Baifu Qin, Zongmin Fan, Qin Tang, Weisi Lu, Haipeng Zhang, Fan Xing, Manqi Meng, Shaomin Zou, Wenxia Wei, Honglei Chen, Jian Cai, Huaiming Wang, Hui Zhang, Jiayue Cai, Ling Fang, Xiqing Bian, Chuangqi Chen, Ping Lan, Bart Ghesquière, Lekun Fang, Mong-Hong Lee

LETTERS TO THE EDITOR

179 Cryo-EM structure of a type I-F CRISPR RNA guided surveillance complex bound to transposition protein TniQ

Zhuang Li, Heng Zhang, Renjian Xiao, Leifu Chang

182 Structure-function insights into the initial step of DNA integration by a CRISPR-Cas-Transposon complex *Open*

Ning Jia, Wei Xie, M. Jason de la Cruz, Edward T. Eng, Dinshaw J. Patel

185 Structural basis of a Tn7-like transposase recruitment and DNA loading to CRISPR-Cas surveillance complex

Beibei Wang, Wenhao Xu, Hui Yang

CORRECTION

188 Author Correction: Intragenic antagonistic roles of protein and circRNA in tumorigenesis

Jlenia Guarnerio, Yang Zhang, Giulia Cheloni, Riccardo Panella, Jesse Mae Katon, Mark Simpson, Akinobu Matsumoto, Antonella Papa, Cristian Loretelli, Andreas Petri, Sakari Kauppinen, Cassandra Garbutt, Gunnlaugur Petur Nielsen, Vikram Deshpande, Mireia Castillo-Martin, Carlos Cordon-Cardo, Dimitrios Spentzos, John G. Clohessy, Mona Batish, Pier Paolo Pandolfi

ADVANCE ONLINE PUBLICATION

Refined spatial-temporal epigenomic profiling reveals intrinsic connection between PRDM9-mediated H3K4me3 and the fate of double-stranded breaks

Yao Chen, Ruitu Lyu, Bowen Rong, Yuxuan Zheng, Zhen Lin, Ruofei Dai, Xi Zhang, Nannan Xie, Siqing Wang, Fuchou Tang, Fei Lan and Ming-Han Tong

Cryo-EM structures of PAC1 receptor reveal ligand binding mechanism

Jia Wang, Xianqiang Song, Dandan Zhang, Xiaoping Chen, Xun Li, Yaping Sun, Cui Li, Yunpeng Song, Yao Ding, Ruobing Ren, Essa Hu Harrington, Liaoyuan A. Hu, Wenge Zhong, Cen Xu, Xin Huang, Hong-Wei Wang and Yingli Ma

Biogenesis of m⁶A-dependent circular RNAs in male germ cells

Chong Tang, Yeming Xie, Tian Yu, Na Liu, Zhuqing Wang, Rebekah J. Woolsey, Yunge Tang, Xinzong Zhang, Weibing Qin, Ying Zhang, Ge Song, Weiwei Zheng, Juan Wang, Weitian Chen, Xiongyi Wei, Zhe Xie, Rachel Klukovic, Huili Zheng, David R. Quilici and Wei Yan

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 17.848. The new impact of *Cell Discovery* is 4.600.

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

Structural insights into DNA recognition by AimR of the arbitrium communication system in the SPbeta phage
Cell Discov. 2019 May 28; 5:29. doi: 10.1038/s41421-019-0101-2.

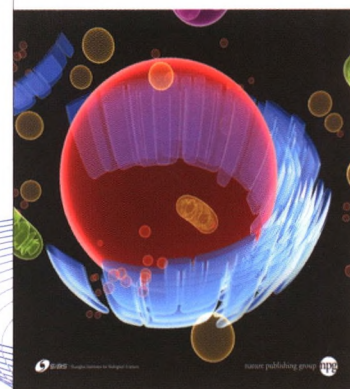
A chemical approach for global protein knockdown from mice to non-human primates
Cell Discov. 2019 Feb 5; 5:10. 10.1038/s41421-018-0079-1.

Repurposing CRISPR-Cas12b for mammalian genome engineering
Cell Discov. 2018 Nov 27; 4:63. doi: 10.1038/s41421-018-0069-3.

A novel antibody-TCR (AbTCR) platform combines Fab-based antigen recognition with gamma/delta-TCR signaling to facilitate T-cell cytotoxicity with low cytokine release
Cell Discov. 2018 Nov 20; 4:62. doi: 10.1038/s41421-018-0066-6.

ADRB2 polymorphism Arg16Gly modifies the natural outcome of heart failure and dictates therapeutic response to β -blockers in patients with heart failure
Cell Discov. 2018 Oct 23; 4:57. doi: 10.1038/s41421-018-0058-6.

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!