

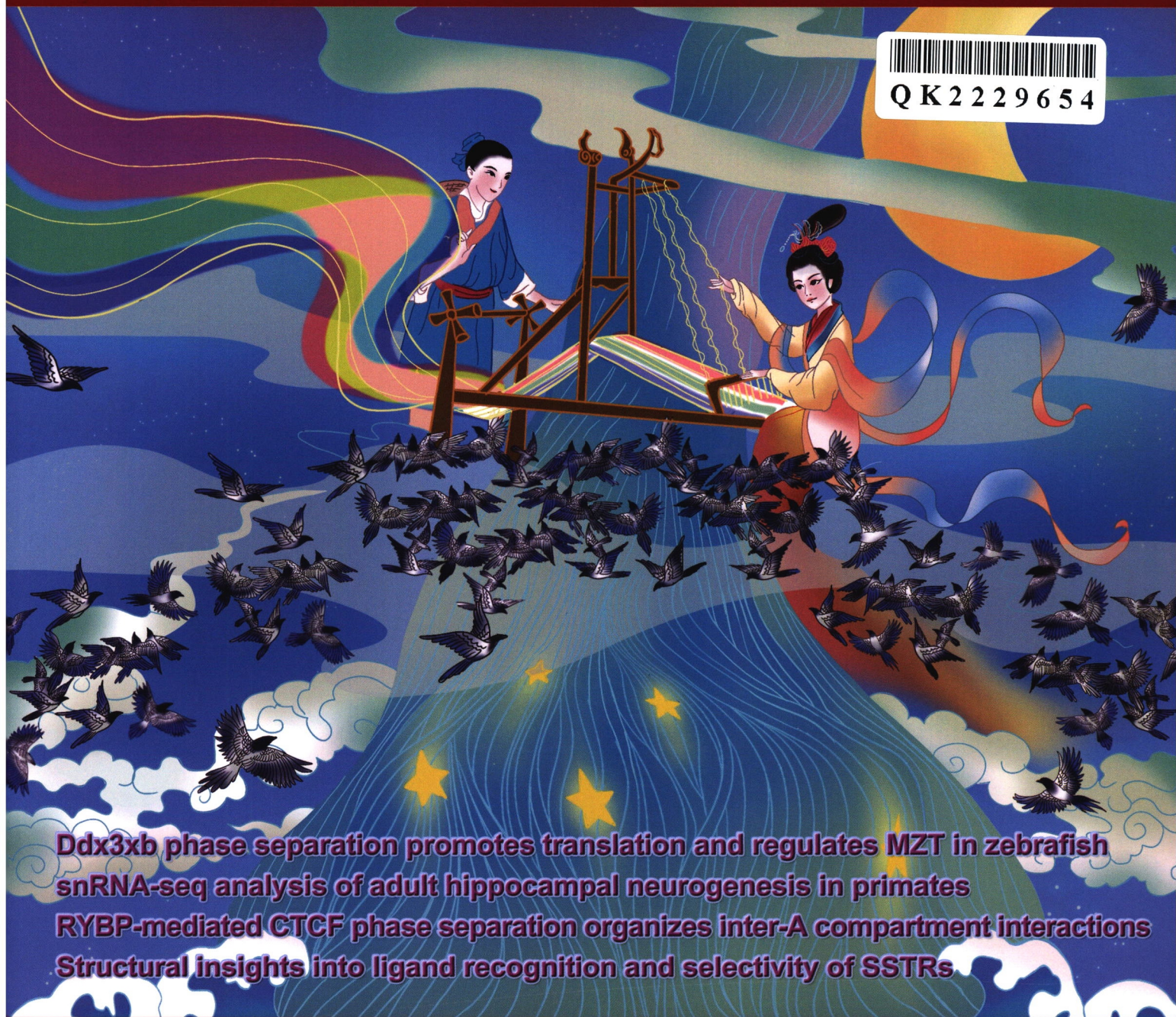
Cell Research

Volume 32 Number 8 August 2022

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



Q K 2 2 2 9 6 5 4



Ddx3xb phase separation promotes translation and regulates MZT in zebrafish
snRNA-seq analysis of adult hippocampal neurogenesis in primates
RYBP-mediated CTCF phase separation organizes inter-A compartment interactions
Structural insights into ligand recognition and selectivity of SSTRs

ISSN 1001-0602



9 771001 060225

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

© 2022 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



SPRINGER NATURE

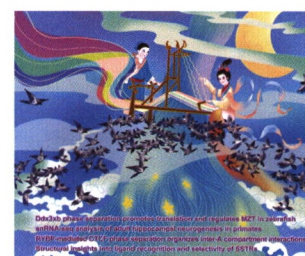
Coordinating Editor for this issue
Shushu Jiang

RESEARCH HIGHLIGHTS

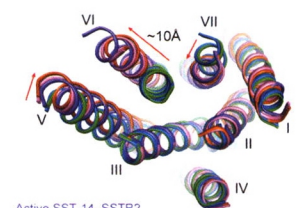
- 705 Towards capturing of totipotency**
Cuiqing Zhong, Ronghui Li, Juan Carlos Izpisua Belmonte
- 707 Maternally loaded RNAs: no time to die**
Martino Ugolini, Nadine L. Vastenhouw
- 709 A BAF-fling connection to RIPK1**
Jessica M. Gullett, Thirumala-Devi Kanneganti
- 711 GLP-1 appetite control via intestinofugal neurons**
Nick J. Spencer, Tim J. Hibberd
- 713 Basophils orchestrate kidney fibrosis**
Camille Chauvin, Jagadeesh Bayry

ARTICLES

- 715 Phase separation of Ddx3xb helicase regulates maternal-to-zygotic transition in zebrafish**
Boyang Shi, Jian Heng, Jia-Yi Zhou, Ying Yang, Wan-Ying Zhang, Magdalena J. Koziol, Yong-Liang Zhao, Pulong Li, Feng Liu, Yun-Gui Yang
- 729 Transcriptome dynamics of hippocampal neurogenesis in macaques across the lifespan and aged humans**
Wei Wang, Mengdi Wang, Meng Yang, Bo Zeng, Wenyang Qiu, Qiang Ma, Xiaoxi Jing, Qianqian Zhang, Bosong Wang, Chonghai Yin, Jiyao Zhang, Yuxin Ge, Yufeng Lu, Weizhi Ji, Qian Wu, Chao Ma, Xiaoqun Wang
- 744 CTCF organizes inter-A compartment interactions through RYBP-dependent phase separation**
Chao Wei, Lumeng Jia, Xiaona Huang, Jin Tan, Mulan Wang, Jing Niu, Yingping Hou, Jun Sun, Pengguihang Zeng, Jia Wang, Li Qing, Lin Ma, Xinyi Liu, Xiuxiao Tang, Fenjie Li, Shaoshuai Jiang, Jingxin Liu, Tingting Li, Lili Fan, Yujie Sun, Juntao Gao, Cheng Li, Junjun Ding
- 761 Structural insights into ligand recognition and selectivity of somatostatin receptors**
Open

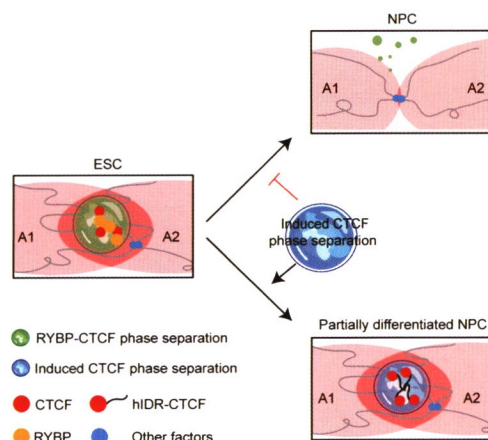


Cover: The image describes a Chinese fairy tale, the “Magpie Bridge Meeting”. On the night of the lunar Double-Seventh Festival, magpies form a bridge across the Milky Way to reunite two separated lovers: The Cowherd and the Weaver Girl. Ddx3xb phase separation (Magpie bridge) promoted the degradation of maternal RNA (overcoming the obstruction of the Milky Way) and the activation of zygotic genes (the silk spun by the Cowherd and Weaver Girl after reunion). See page 715–728 by Soyang Shi et al. for details.



Active SST-14-SSTR2
Active SST-14-SSTR4
Inactive SSTR2-CYN 154806
Inactive J-2156-SSTR4
Inactive SSTR2-L-054.522

Intracellular view that compares solved structures of SSTR2 and SSTR4 complexes. See page 761–772 by Wenli Zhao et al. for details.



Schematic diagram showing that induced CTCF phase separation facilitates inter-A compartment interactions and inhibits ESC differentiation toward NPCs. See page 744–760 by Chao Wei et al. for details.

Wenli Zhao, Shuo Han, Na Qiu, Wenbo Feng,
Mengjie Lu, Wenru Zhang, Mu Wang, Qingtong Zhou,
Shutian Chen, Wei Xu, Juan Du, Xiaojing Chu,
Cuiying Yi, Antao Dai, Liaoyuan Hu, Michelle Y. Shen,
Yaping Sun, Qing Zhang, Yingli Ma, Wenge Zhong,
Dehua Yang, Ming-Wei Wang, Beili Wu, Qiang Zhao

LETTERS TO THE EDITOR

- 773 Structure of human NTCP reveals the basis of recognition and sodium-driven transport of bile salts into the liver** *Open*
Hongtao Liu, Rossitza N. Irobalieva, Rose Bang-Sørensen,
Kamil Nosol, Somnath Mukherjee, Parth Agrawal,
Bruno Stieger, Anthony A. Kossiakoff, Kaspar P. Locher

ADVANCE ONLINE PUBLICATION

Arc weakens synapses by dispersing AMPA receptors from postsynaptic density via modulating PSD phase separation

Xudong Chen, Bowen Jia, Yoichi Araki, Bian Liu, Fei Ye, Richard Huganir, Mingjie Zhang

- 777 Safety and superior immunogenicity of heterologous boosting with an RBD-based SARS-CoV-2 mRNA vaccine in Chinese adults** *Open*

Xiaoqiang Liu, Yuhua Li, Zhongfang Wang,
Shouchun Cao, Weijin Huang, Lin Yuan, Yi-Jiao Huang,
Yan Zheng, Jingjing Chen, Bo Ying, Zuoyun Xiang,
Jin Shi, Jincun Zhao, Zhen Huang, Cheng-Feng Qin

- 781 Disease profile and plasma neutralizing activity of post-vaccination Omicron BA.1 infection in Tianjin, China: a retrospective study** *Open*

Hong Zheng, Yunlong Cao, Xiaosu Chen, Fengmei Wang,
Ye Hu, Weiliang Song, Yangyang Chai, Qingqing Gu,
Yansong Shi, Yingmei Feng, Shuxun Liu, Yan Xie,
Xiaoliang Sunney Xie, Wentao Jiang, Zhongyang Shen

- 785 Structures of the endogenous peptide- and selective non-peptide agonist-bound SSTR2 signaling complexes**

Li-Nan Chen, Wei-Wei Wang, Ying-Jun Dong,
Dan-Dan Shen, Jia Guo, Xuefei Yu, Jiao Qin, Su-Yu Ji,
Huibing Zhang, Qingya Shen, Qiaojun He, Bo Yang,
Yan Zhang, Qinglin Li, Chunyou Mao

CORRECTION

- 789 Author Correction: Structural insights into thyrotropin-releasing hormone receptor activation by an endogenous peptide agonist or its orally administered analogue**
Fan Yang, Huanhuan Zhang, Xianyu Meng, Yingge Li,
Yingxin Zhou, Shenglong Ling, Demeng Sun, Pei Lv,
Lei Liu, Pan Shi, Changlin Tian

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. *Cell Discovery* is established in 2015 as a sister journal of *Cell Research*, a top-tier journal with a current impact factor of 46.297. The new impact factor of *Cell Discovery* is 38.079 (Clarivate Analytics, 2022), the current acceptance standard of *Cell Discovery* is comparable to the sister journals of *Cell/Nature/Science*.

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

Novel cleavage sites identified in SARS-CoV-2 spike protein reveal mechanism for cathepsin L-facilitated viral infection and treatment strategies
Cell Discov. 2022 Jun 6;8(1):53. doi: 10.1038/s41421-022-00419-w.

Dynamic O-GlcNAcylation coordinates ferritinophagy and mitophagy to activate ferroptosis
Cell Discov. 2022 May 3;8(1):40. doi: 10.1038/s41421-022-00390-6.

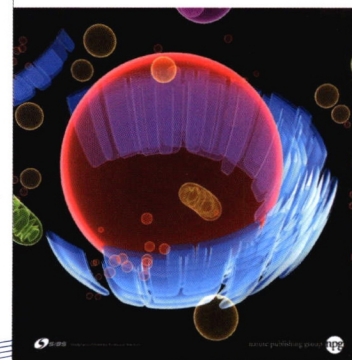
Treatment of SARS-CoV-2-induced pneumonia with NAD⁺ and NMN in two mouse models
Cell Discov. 2022 Apr 29;8(1):38. doi: 10.1038/s41421-022-00409-y.

CRISPR signal conductor 2.0 for redirecting cellular information flow
Cell Discov. 2022 Mar 15;8(1):26. doi: 10.1038/s41421-021-00371-1.

Cross-species metabolomic analysis identifies uridine as a potent regeneration promoting factor
Cell Discov. 2022 Feb 1;8(1):6. doi: 10.1038/s41421-021-00361-3.

Histone lysine methacrylation is a dynamic post-translational modification regulated by HAT1 and SIRT2
Cell Discov. 2021 Dec 28;7(1):122. doi: 10.1038/s41421-021-00344-4.

Cell Discovery



Editor-in-Chief: Dangsheng Li

SUBMIT

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