

# Cell Research

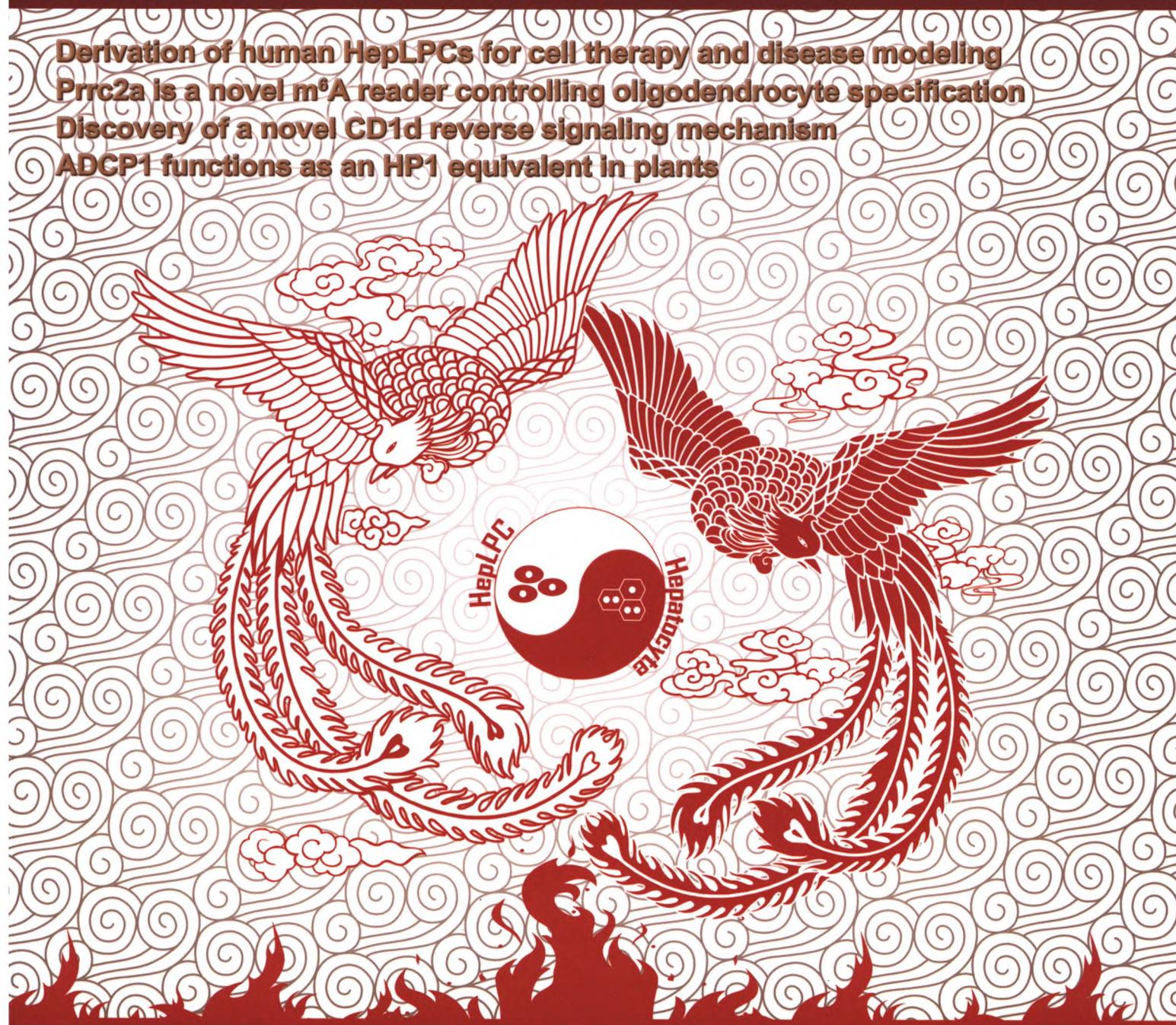


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[www.nature.com/cr](http://www.nature.com/cr)  
[www.cell-research.com](http://www.cell-research.com)

**Derivation of human HepLPCs for cell therapy and disease modeling**  
**Prrc2a is a novel m<sup>6</sup>A reader controlling oligodendrocyte specification**  
**Discovery of a novel CD1d reverse signaling mechanism**  
**ADCP1 functions as an HP1 equivalent in plants**



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SPINGER NATURE

Coordinating Editor for this issue  
Li Lu

## RESEARCH HIGHLIGHTS

- 1 **Engineering 3D genome organization**  
*Xiaowen Lyu, Victor G. Corces*
- 4 **m<sup>6</sup>A-epitranscriptome modulates memory strength**  
*Sebastian Krüttner, Pico Caroni*
- 6 **ADCP1: a novel plant H3K9me2 reader**  
*C. Jake Harris, Steven E. Jacobsen*

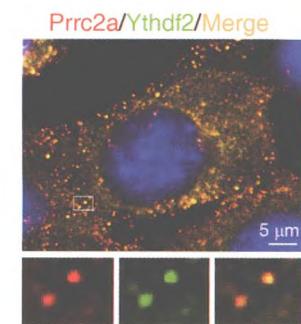


## ARTICLES

- 8 **Expansion and differentiation of human hepatocyte-derived liver progenitor-like cells and their use for the study of hepatotropic pathogens Open**  
*Gong-Bo Fu, Wei-Jian Huang, Min Zeng, Xu Zhou, Hong-Ping Wu, Chang-Cheng Liu, Han Wu, Jun Weng, Hong-Dan Zhang, Yong-Chao Cai, Charles Ashton, Min Ding, Dan Tang, Bao-Hua Zhang, Yi Gao, Wei-Feng Yu, Bo Zhai, Zhi-Ying He, Hong-Yang Wang, He-Xin Yan*
- 23 **A novel m<sup>6</sup>A reader Prcc2a controls oligodendroglial specification and myelination Open**  
*Rong Wu, Ang Li, Baofa Sun, Jian-Guang Sun, Jinhua Zhang, Ting Zhang, Yusheng Chen, Yujie Xiao, Yuhao Gao, Qingyang Zhang, Jun Ma, Xin Yang, Yajin Liao, Wei-Yi Lai, Xiaolong Qi, Shukun Wang, Yousheng Shu, Hai-Lin Wang, Fengchao Wang, Yun-Gui Yang, Zengqiang Yuan*

**Cover:** A reversible conversion between hepatocytes and liver progenitor-like cells (HepLPCs; Taiji diagram) is like the immortal phoenix rising from the flames made of small molecule cocktails. The conversion enables expansion of human hepatocytes *in vitro* and facilitates their application in disease modeling and regenerative medicine. See page 8-22 by Gong-Bo Fu et al. for details.

- 42 **Glycolipid iGb3 feedback amplifies innate immune responses via CD1d reverse signaling**  
*Xingguang Liu, Peng Zhang, Yunkai Zhang, Zheng Wang, Sheng Xu, Yingke Li, Wanwan Huai, Qingqing Zhou, Xiang Chen, Xi Chen, Nan Li, Peng Wang, Yunsen Li, Xuetao Cao*



Confocal images of Prcc2a (red) and Ythdf2 (green) colocalization in HT-22 cells. See page 23-41 by Rong Wu et al. for details.

- 54 **Plant HP1 protein ADCP1 links multivalent H3K9 methylation readout to heterochromatin formation Open**  
*Shuai Zhao, Lingling Cheng, Yifei Gao, Baichao Zhang, Xiangdong Zheng, Liang Wang, Pilong Li, Qianwen Sun, Haitao Li*

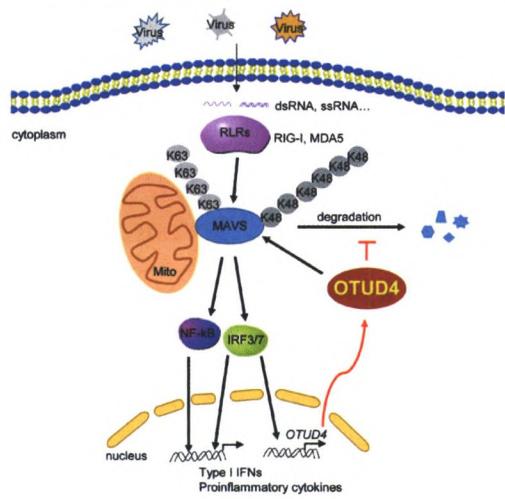


Illustration of a model on OTUD4-mediated regulation of innate antiviral signaling. See page 67-79 by Tianzi Liuyu et al. for details.

- 67 Induction of OTUD4 by viral infection promotes antiviral responses through deubiquitinating and stabilizing MAVS**  
*Tianzi Liuyu, Keying Yu, Liya Ye, Zhidong Zhang, Man Zhang, Yujie Ren, Zeng Cai, Qiyun Zhu, Dandan Lin, Bo Zhong*

## LETTERS TO THE EDITOR

- 80 Cap-specific, terminal N<sup>6</sup>-methylation by a mammalian m<sup>6</sup>Am methyltransferase** *Open*  
*Hanxiao Sun, Meiling Zhang, Kai Li, Dongsheng Bai, Chengqi Yi*
- 83 Palmitoylation stabilizes PD-L1 to promote breast tumor growth**  
*Yi Yang, Jung-Mao Hsu, Linlin Sun, Li-Chuan Chan, Chia-Wei Li, Jennifer L. Hsu, Yongkun Wei, Weiya Xia, Junwei Hou, Yufan Qiu, Mien-Chie Hung*
- 87 A single circular chromosome yeast** *Open*  
*Yangyang Shao, Ning Lu, Chen Cai, Fan Zhou, Shanshan Wang, Zhihu Zhao, Guoping Zhao, Jin-Qiu Zhou, Xiaoli Xue, Zhongjun Qin*

## Corrections

- 90 Author Correction: H3K14me3 genomic distributions and its regulation by KDM4 family demethylases**  
*Bin Zhao, Wenqi Xu, Bowen Rong, Guoyu Chen, Xuanjia Ye, Ruofei Dai, Wenjing Li, Jiajia Chen, Jiajun Cai, Lei Song, Zhao-Qing Luo, Rong Zeng, Yang Shi, Jing-Dong J. Han, Fei Lan*

## ADVANCE ONLINE PUBLICATION

- Conversion of hepatoma cells to hepatocyte-like cells by defined hepatocyte nuclear factors** *Open*  
*Zhuo Cheng, Zhiying He, Yongchao Cai, Cheng Zhang, Gongbo Fu, Hengyu Li, Wen Sun, Changcheng Liu, Xiuliang Cui, Beifang Ning, Daimin Xiang, Tengfei Zhou, Xiaofeng Li, Weifen Xie, Hongyang Wang, Jin Ding*

*doi:10.1038/s41422-018-0111-x*

- Integrative single-cell analysis of transcriptome, DNA methylome and chromatin accessibility in mouse oocytes** *Open*  
*Chan Gu, Shanling Liu, Qihong Wu, Lin Zhang, Fan Guo*

*doi:10.1038/s41422-018-0125-4*

- Blocking FSH inhibits hepatic cholesterol biosynthesis and reduces serum cholesterol**  
*Yanjing Guo, Meng Zhao, Tao Bo, Shizhan Ma, Zhongshang Yuan, Wenbin Chen, Zhao He, Xu Hou, Jun Liu, Zhenhai Zhang, Qiang Zhu, Qiangxiu Wang, Xiaoyan Lin, Zhongli Yang, Min Cui, Lu Liu, Yujie Li, Chunxiao Yu, Xiaoyi Qi, Qian Wang, Haiqing Zhang, Qingbo Guan, Lifang Zhao, Shimeng Xuan, Huili Yan, Yanliang Lin, Li Wang, Qihang Li, Yongfeng Song, Ling Gao, Jiajun Zhao*

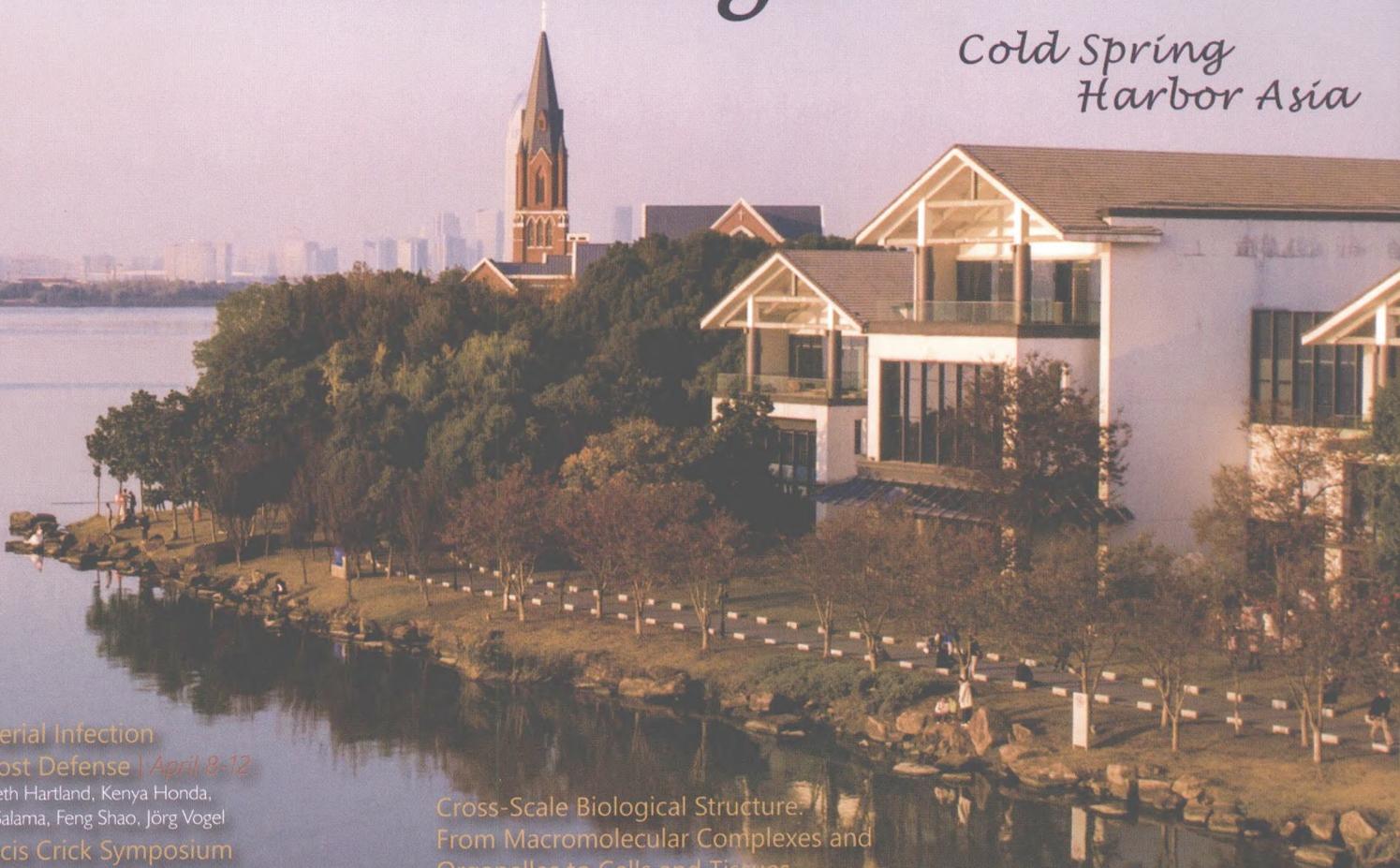
*doi:10.1038/s41422-018-0123-6*

# 2019

# Meetings



Cold Spring  
Harbor Asia



## Bacterial Infection

& Host Defense | April 8-12

Elizabeth Hartland, Kenya Honda,  
Dina Salama, Feng Shao, Jörg Vogel

## Francis Crick Symposium

Transforming Neurosciences:

Questions & Experiments | April 15-19

Hailan Hu, Maiken Nedergaard, Hee-sup Shin,  
Alcino Silva, John O'Keefe

## Membrane Proteins:

From Physiology to Pharmacology

May 6-10

Nancy Carrasco, Baoliang Song, Chris Tate, Nieng Yan

## Scientific and Technical Advances

In Cancer Immunology | June 8-12

Kuetao Cao, Zemin Zhang,

co-organizers to be announced

## Summer Course: Computational and

Cognitive Neuroscience | June 30- July 20

Xiao-Jing Wang, Dora Angelaki,

Christopher Honey, Robert Guangyu Yang

## Summer Course: Building and Mining

Brain Cell Atlases and Connectomes

Dates: TBA

Zhisheng Huang, Qingming Luo, co-organizers to be announced

## Cross-Scale Biological Structure: From Macromolecular Complexes and Organelles to Cells and Tissues

September 2-6

Manfred Auer, Masahide Kikkawa,  
Hongwei Wang, Peijun Zhang

## Neurobiology of Behavior and Neuropsychiatric Disorders

September 16-20

Anthony Grace, Minmin Luo, Masashi Yanagisawa

## Stem Cells, Aging & Rejuvenation

September 23-27

Hao Li, Seung-Jae Lee, Zhou Songyang, John Sedivy

## NF- $\kappa$ B, JAK-STAT and MAPK: Intercrossing Signaling Pathways in Health, Disease and Therapy | October 7-11

Yue Chin, Sankar Ghosh, Yinan Ben-Neriah, Bing Su

## Cilia and Centrosomes | October 14-18

Monica Bettencourt-Dias, Hiroshi Hamada,  
Gert Jansen, Guangshuo Ou

## Synthetic Biology | October 21-25

Junbiao Dai, Jay Keasling, Akihiko Kondo

## Chemical Biology and Drug Discovery

October 28- November 1

Haian Fu, Yan-Mei Li, Rolf Müller, Minoru Yoshida

## Plant Cell and Development Biology

Gyeongju, South Korea

November 3-7

Ildoo Hwang, Keiko Sugimoto, Jian-Kang Zhu

## Mitochondria and Metabolism in Health and Disease

November 11-15

Paolo Bernardi, Emilio Clementi, Xiaodong Wang

## Liver, Biology, Diseases & Cancer

Awaji, Japan | December 9-12

Gen-Sheng Feng, Stuart Forbes, Lijian Hui,  
Atsushi Miyajima, Takahiro Ochiya

## Kinase and Phosphatase Signaling

December 9-13

Tzu-Ching Meng, Reiko Sugiura, Nicholas Tonks,  
Tony Tiganis