

ISSN:1001-0602(Print) ISSN:1748-7838(Online) 细胞研究  
CN:31-1568/Q(Print) CN:31-6000/Q(Online) CPDN:4-645

# Cell Research



Volume 28 Number 5 May 2018

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



**Review on roles of m<sup>6</sup>A in cancer**  
**Cryo-EM structure of human mTORC2**  
**Novel insights into G protein signaling in plants**  
**Revealing how antimetabolic drugs kill cancer cells**

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 Shanghai Institutes for Biological Sciences (SIBS), Chinese Academy of Sciences (CAS) since 2006.

Sponsored by:

Institute of Biochemistry and Cell Biology (IBCB), Shanghai Institutes for Biological Sciences, Chinese Academy of Sciences

© 2018 IBCB, SIBS, 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](http://www.publicationethics.org)



SPRINGER NATURE

Coordinating Editor for this issue  
Shushu Jiang

## RESEARCH HIGHLIGHTS

### 501 Anti-CTLA-4 immunotherapy: uncoupling toxicity and efficacy

Jonathan Pol, Guido Kroemer

### 503 Heart muscle regeneration: the wonder of a Cardio-Cocktail

Matthew C Hill, James F Martin

### 505 m<sup>6</sup>A deposition: a boost from TGFβ

Lior Lasman, Jacob H. Hanna

## REVIEW ARTICLE

### 507 RNA N<sup>6</sup>-methyladenosine modification in cancers: current status and perspectives Open

Xiaolan Deng, Rui Su, Hengyou Weng, Huilin Huang, Zejuan Li, Jianjun Chen

## ARTICLES

### 518 Cryo-EM structure of human mTOR complex 2

Xizi Chen, Mengjie Liu, Yuan Tian, Jiabei Li, Yilun Qi, Dan Zhao, Zihan Wu, Min Huang, Catherine C. L. Wong, Hong-Wei Wang, Jiawei Wang, Huirong Yang, Yanhui Xu

### 529 Ligand-triggered de-repression of Arabidopsis heterotrimeric G proteins coupled to immune receptor kinases Open

Xiangxiu Liang, Miaomiao Ma, Zhaoyang Zhou, Jinlong Wang, Xinru Yang, Shaofei Rao, Guozhi Bi, Lin Li, Xiaojuan Zhang, Jijie Chai, She Chen, Jian-Min Zhou

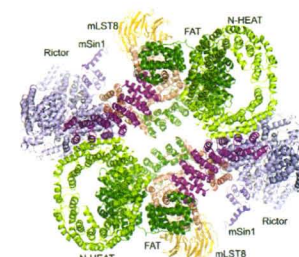
### 544 Anti-mitotic chemotherapeutics promote apoptosis through TL1A-activated death receptor 3 in cancer cells Open

Chen Qi, Xin Wang, Zhirong Shen, She Chen, Hong Yu, Noelle Williams, Gelin Wang

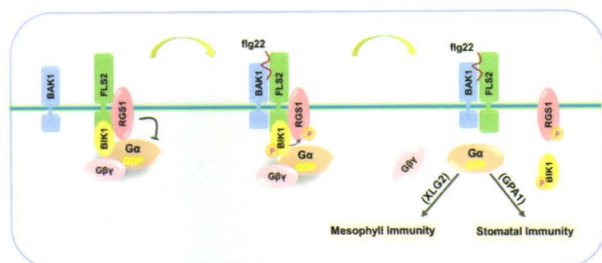
### 556 An NF90/NF110-mediated feedback amplification loop regulates dicer expression and controls ovarian carcinoma progression



**Cover:** Clinical anti-mitotic drugs induce Death receptor 3 (DR3) - mediated apoptosis in cancer cells. The expression of DR3 or its ligand TL1A corresponds to the apoptotic response, thus may hold promise to be used as predicting biomarkers for clinical response to anti-mitotic therapeutics. See page 544-555 by Chen Qi et al. for details.



Overall structure of human mTOR complex 2. See page 518-528 by Xizi Chen et al. for details.



A model for RGS1-Gαβγ regulation in *Arabidopsis*. See page 529-543 by Xiangxiu Liang et al. for details.

Jérôme Barbier, Xin Chen, Gabriel Sanchez, Muyan Cai, Marion Helmsmoortel, Takuma Higuchi, Pierre Giraud, Xavier Contreras, Gangjun Yuan, Zihao Feng, Rima Nait-Saidi, Olivier Deas, Lisa Bluy, Jean-Gabriel Judde, Sylvie Rouquier, William Ritchie, Shuji Sakamoto, Dan Xie, Rosemary Kiernan

**572 KRAB-type zinc-finger proteins PITA and PISA specifically regulate p53-dependent glycolysis and mitochondrial respiration**  
*Open*

Shan Wang, Zhiqiang Peng, Siying Wang, Lihua Yang, Yuhan Chen, Xue Kong, Shanshan Song, Pei Pei, Chunyan Tian, Hui Yan, Peipei Ding, Weiguo Hu, Cui Hua Liu, Xin Zhang, Fuchu He, Lingqiang Zhang

**LETTERS TO THE EDITOR**

**593 Silencing of developmental genes by H3K27me3 and DNA methylation reflects the discrepant plasticity of embryonic and extraembryonic lineages**

Xianfa Yang, Boqiang Hu, Yu Hou, Yunbo Qiao, Ran Wang, Yingying Chen, Yun Qian, Su Feng, Jun Chen, Chang Liu, Guangdun Peng, Fuchou Tang, Naihe Jing

**597 Circulating tumor DNA 5-hydroxymethylcytosine as a novel diagnostic biomarker for esophageal cancer**

Xin Tian, Baofa Sun, Chuanyuan Chen, Chunchun Gao, Ji Zhang, Xingyu Lu, Linchen Wang, Xiangnan Li, Yurong Xing, Ruijuan Liu, Xiao Han, Zheng Qi, Xiaojian Zhang, Chuan He, Dali Han, Yun-Gui Yang, Quancheng Kan

**601 Pan-cancer analysis of somatic mutations across 21 neuroendocrine tumor types**

Yanan Cao, Weiwei Zhou, Lin Li, Jiaqian Wang, Zhibo Gao, Yiran Jiang, Xiuli Jiang, Aijing Shan, Matthew H. Bailey, Kuan-lin Huang, Sam Q. Sun, Michael D. McLellan, Beifang Niu, Weiqing Wang, Li Ding, Guang Ning

**CORRECTION**

**605 Author Correction: KRAB-type zinc-finger proteins PITA and PISA specifically regulate p53-dependent glycolysis and mitochondrial respiration**

Shan Wang, Zhiqiang Peng, Siying Wang, Lihua Yang, Yuhan Chen, Xue Kong, Shanshan Song, Pei Pei, Chunyan Tian, Hui Yan, Peipei Ding, Weiguo Hu, Cui Hua Liu, Xin Zhang, Fuchu He, Lingqiang Zhang

**ADVANCE ONLINE PUBLICATION**

08 APRIL 2018

**Circular RNA F-circEA produced from *EML4-ALK* fusion gene as a novel liquid biopsy biomarker for non-small cell lung cancer**

Shuangyan Tan, Qiheng Gou, Wenchen Pu, Chenglin Guo, Yun Yang, Ke Wu, Yaxin Liu, Lunxu Liu, Yu-Quan Wei and Yong Peng

doi:10.1038/s41422-018-0033-7

18 APRIL 2018

**Chemical-induced cardiac reprogramming in vivo**

Chenwen Huang, Wanzhi Tu, Yanbin Fu, Jinxi Wang and Xin Xie

*Open*

doi:10.1038/s41422-018-0036-4



# New! 活细胞实时 蛋白相互作用检测

NanoLuc<sup>®</sup> Binary Technology  
(NanoBiT<sup>™</sup>) 是一种基于 Promega 最新专利  
萤光素酶 NanoLuc<sup>®</sup> 萤光素酶的二亚单元系统，  
用来检测活细胞内蛋白质的相互作用。



扫码了解 NanoBiT 技术



欢迎关注 Promega 官方微信

普洛麦格（北京）生物技术有限公司

地址：北京市东城区北三环东路 36 号环球贸易中心 B 座 907-909

电话：010-58256268

传真：010-58256160

网址：[www.promega.com](http://www.promega.com)

技术支持邮箱：[chinatechserv@promega.com](mailto:chinatechserv@promega.com)