

# Cell Research



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**RNAi as a host defense mechanism against Zika virus**  
**Structures of human spliceosome P and ILS complexes**  
**A lncRNA switches PTEN enzymatic activity**  
**Structural insights into the type III-A CRISPR-Csm system**



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## RESEARCH HIGHLIGHTS

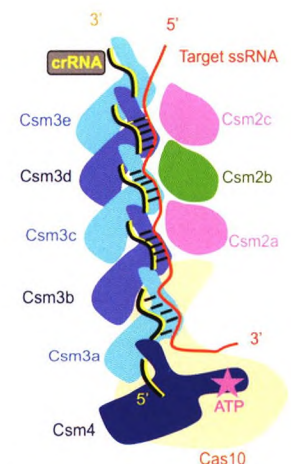
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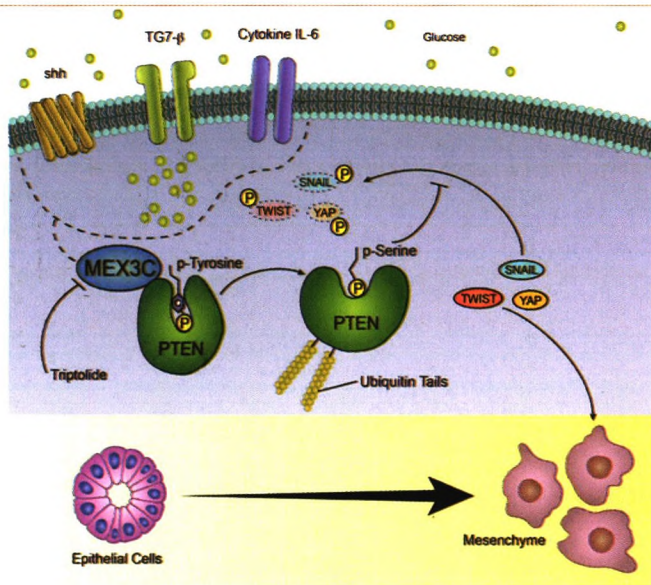
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- 313 Vitamin B<sub>12</sub> modulates Parkinson's disease LRRK2 kinase activity through allosteric regulation and confers neuroprotection**



**Cover:** The cover image illustrates how RNAi (terracotta warrior from Qin dynasty of China), as an “ancient” antiviral immunity mechanism, protects human neural progenitors (the wall) and brain organoids (beacon towers) from the invasion of Zika viruses. In antiviral RNAi, Dicer (the crossbow) produces viral siRNAs (the arrows) from viral dsRNA to specifically target and cleave viral genomic RNAs. Cover art is contributed by Dr. Yefei Li. See page 265-273 by Yan-Peng Xu et al. for details.



A cartoon shows the architecture of the type III-A CRISPR-Csm complex with target ssRNA using small conformation as an example. See page 305-312 by Minghui Guo et al. for details.



Graphic illustration of molecular mechanisms underlying PTEN-dependent EMT. See page 286-304 by Qingsong Hu et al. for details.

Adam Schaffner, Xianting Li, Yacob Gomez-Llorente, Emmanouela Leandrou, Anna Memou, Nicolina Clemente, Chen Yao, Farinaz Afsari, Lianteng Zhi, Nina Pan, Keita Morohashi, Xiaoluan Hua, Ming-Ming Zhou, Chunyu Wang, Hui Zhang, Shu G. Chen, Christopher J. Elliott, Hardy Rideout, Iban Ubarretxena-Belandia, Zhenyu Yue

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- 334** CRISPR/Cas9-mediated *PINK1* deletion leads to neurodegeneration in rhesus monkeys **Open**

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- 337** Author Correction: Gene and mutation independent therapy via CRISPR-Cas9 mediated cellular reprogramming in rod photoreceptors

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- 338** Author Correction: Hormones induce the formation of luminal-derived basal cells in the mammary gland

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## ADVANCE ONLINE PUBLICATION

### LSEctin on tumor-associated macrophages enhances breast cancer stemness via interaction with its receptor BTN3A3

Di Liu, Qian Lu, Xing Wang, Jun Wang, Ning Lu, Zefei Jiang, Xiaopeng Hao, Jianbin Li, Jing Liu, Pengbo Cao, Guilin Peng, Yuandong Tao, Dianyuan Zhao, Fuchu He and Li Tang

[doi.org/10.1038/s41422-019-0155-6](https://doi.org/10.1038/s41422-019-0155-6)

### Cortical branched actin determines cell cycle progression **Open**

Nicolas Molinie, Svetlana N. Rubtsova, Artem Fokin, Sai P. Visweshwaran, Nathalie Rocques, Anna Poleskaya, Anne Schnitzler, Sophie Vacher, Evgeny V. Denisov, Lubov A. Tashireva, Vladimir M. Perelmuter, Nadezhda V. Cherdyntseva, Ivan Bièche and Alexis M. Gautreau

[doi.org/10.1038/s41422-019-0160-9](https://doi.org/10.1038/s41422-019-0160-9)

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#### Featured articles

Four putative SWI2/SNF2 chromatin remodelers have dual roles in regulating DNA methylation in *Arabidopsis*

*Cell Discov.* 2018 Oct 16;4:55. doi: 10.1038/s41421-018-0056-8

Merge and separation of NuA4 and SWR1 complexes control cell fate plasticity in *Candida albicans*

*Cell Discov.* 2018 Aug 14;4:45. doi: 10.1038/s41421-018-0043-0

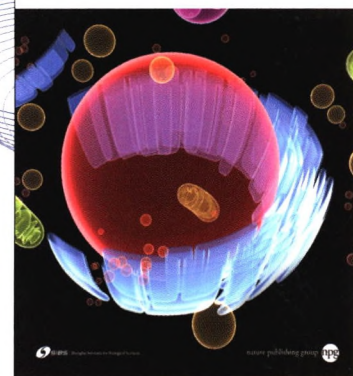
Structural visualization of RNA polymerase III transcription machineries

*Cell Discov.* 2018 Jul 31;4:40. doi: 10.1038/s41421-018-0044-z

Disruption of glial cell development by Zika virus contributes to severe microcephalic newborn mice

*Cell Discov.* 2018 Jul 31;4:43. doi: 10.1038/s41421-018-0042-1CR

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