



研究队伍

- > 院士专家
- > 杰出青年
- > 研究员
- > 副研究员
- > 青年创新促进会
- > 人才招聘

	姓名:	李 磊
	学 科:	发育生物学
	电话/传真:	+86-10-64807865 /
	电子邮件:	lil@ioz.ac.cn , lleisep@gmail.com
	通讯地址:	北京市朝阳区北辰西路1号院5号 中国科学院动物研究所干细胞与生殖生物学国家重点实验室 100101
	更多信息:	分子胚胎发育生物学研究组 个人页面 English

简历介绍:

李磊, 男, 博士, 博士生导师, 中国科学院动物研究所研究员, 分子胚胎发育生物学研究组组长, 中国科学院大学岗位教授, 中国科学技术大学兼职教授, 国家重点研发计划首席科学家。

1994年7月, 中国农业大学生物学院动物生理生化专业本科毕业; 2002年3月, 日本群馬大学医学部获生理学博士学位。博士毕业后, 在日本学术振兴会 (JSPS/Japan) 和美国国立卫生研究院 (NIH/USA) 资助下从事博士后研究。2009年5月, 依托中国科学院动物研究所干细胞与生殖生物学国家重点实验室, 组建分子胚胎发育生物学研究组。

长期从事哺乳动物早期胚胎发育和配子形成的分子机制研究。实验室主要以基因敲除小鼠、早期胚胎体外培养和胚胎干细胞等为模型, 研究哺乳动物早期胚胎发育母源调控、早期细胞谱系形成和配子发生的分子机制。发现哺乳动物第一个母源复合体SCMC (subcortical maternal complex), 围绕该复合体进行的系列研究明显促进哺乳动物母源调控领域研究; 建立高效哺乳动物早期原肠胚发育的体外研究模型, 首次将灵长类胚胎体外培养至原肠胚时期。以通讯作者在Science、Nat Commun、Dev Cell、Development、JMCB和JBC等专业期刊发表论文20余篇。受邀为Trends Mol Med和Mol Aspects Med等学术期刊撰写哺乳动物早期胚胎母源调控方向的综述论文。

主持国家重点研发计划项目、国家重大研究计划课题或子课题、国家基金委重点项目、国家基金委重大项目子课题和面上项目等。Biology of Reproduction杂志编委。国家科技部、国家基金委、英国MRC和法国NRA等基金的评委。获美国国立卫生研究院 "NIDDK Nancy Nossal Fellowship Award" 和 "NIH Fellow Award for Research Excellent" 等



奖励。培养博士后、博士和硕士毕业生20余人，已毕业学生主要在国内外著名高校和研究所从事教学与科研工作。实验室现有博士研究生6名，硕士研究生5名。

代表论著：

(*通讯作者论文)

1. Xiang Y, Zhang Y, Xu Q, Zhou C, Liu B, Du Z, Zhang K, Zhang B, Wang X, Gayen S, Liu L, Wang Y, Li Y, Wang Q, Kalantry S, **Li L**, Xie W. Epigenomic analysis of gastrulation reveals a unique chromatin state for primed pluripotency. *Nature Genetics*. (2019, in press).
2. Ma H, Zhai J, Wan H, Jiang X, Wang X, Wang L, Xiang Y, He X, Zhao Z, Zhao B, Zheng P*, **Li L***, Wang H*. In vitro culture of cynomolgus monkey embryos beyond early gastrulation. *Science*. 2019 Oct 31. pii: eaax7890. doi: 10.1126/science.aax7890. [Epub ahead of print].
3. Qin D, Gao Z, Xiao Y, Zhang X, Ma H, Yu X, Nie X, Fan N, Wang X, OuYang Y, Sun QY, Yi Z, **Li L***. The subcortical maternal complex protein Nlrp4f is involved in cytoplasmic lattice formation and organelle distribution. *Development*. 2019 Oct 18; 146 (20). pii: dev183616. doi: 10.1242/dev.183616.
4. Du J, Fan Y, Guo Z, Wang Y, Zheng X, Huang C, Liang B, Gao L, Cao Y, Chen Y, Zhang X, **Li L**, Xu L, Wu C, Weitz D, Feng X. Compression generated by a 3D supracellular actomyosin cortex promotes embryonic stem cell colony growth and expression of Nanog and Oct4. *Cell Systems*. 2019 Aug 28; 9(2): 214-220.e5.
5. Jiang Z, Guang L, **Li L**, Shyh-Chang N. Putting stem cells on a low-fat diet switches their pluripotent state. *Cell Stem Cell*. 2019 Jul; 25(1): 3-5.
6. Meng T, Lu X, Guo L, Hou G, Ma X, Li Q, Huang L, Fan L, Zhao Z, Ou X, OuYang Y, Schatten H, **Li L**, Wang Z, Sun QY. Mettl14 is required for mouse postimplantation development by facilitating epiblast maturation. *FASEB J*. 2019 Jan; 33(1): 1179-1187.
7. Wang X, Qin D, Lu X, **Li L***. An oocyte-embryo-specific subcortical maternal complex in mammals (in Chinese). *Scientia Sinica Vitae*. 2018 Jun; 48(6), 609-617.
8. Zhang Y, Zhang X, Shi J, Tuorto F, Li X, Liu Y, Liebers R, Zhang L, Qu Y, Qian J, Pahima M, Liu Y, Yan M, Cao Z, Lei X, Cao Y, Peng H, Liu S, Wang Y, Zheng H, Woolsey R, Quilici D, Zhai Q, **Li L**, Zhou T, Yan W, Lyko F, Zhang Y, Zhou Q, Duan E, Chen Q. Dnmt2 mediates intergenerational transmission of paternally acquired metabolic disorders through sperm small non-coding RNAs. *Nature Cell Biology*. 2018 May; 20(5): 535-540.



9. Lu X, Zhao Z, Wang X, Zhang X, Zhai Y, Deng W, Yi Z*, **Li L***. Whole-transcriptome splicing profiling of E7.5 mouse primary germ layers reveals frequent usage of alternative promoter during early embryogenesis. *Biology Open*. 2018, Mar; 7(3). bio032508.
10. Gao Z, Zhang X, Yu X, Qin D, Yu Y, Liu W, Xiang Y, Xiao Y, Lu X, Yi Z, **Li L***. Zbed3 participates in the subcortical maternal complex and regulates the distribution of organelles. *Journal of Molecular Cell Biology*. 2018 Feb; 10(1): 74-88.
11. Yu Y, Wang X, Zhang X, Zhai Y, Lu X, Ma H, Zhu K, Zhao T, Jiao J, Zhao Z*, **Li L***. ERK inhibition promotes neuroectodermal precursor commitment by blocking self-renewal and primitive streak formation of the epiblast. *Stem Cell Research & Therapy*. 2018 Jan; 9(1): 2. doi: 10.1186/s13287-017-0750-8.
12. Zhang Y, Xiang Y, Yin Q, Du Z, Peng X, Wang Q, Fidalgo M, Xia W, Li Y, Zhao Z, Zhang W, Ma J, Xu F, Wang J, **Li L**, Xie W. Dynamic epigenomic landscapes during early lineage specification. *Nature Genetics*. 2018 Jan; 50(1): 96-105.
13. Lu X, Gao Z, Qin D, **Li L***. A maternal functional module in the mammalian oocyte-to-embryo transition. *Trends in Molecular Medicine*. 2017 Nov; 23 (11) 1014–1023.
14. Zhang L, Zhang X, Zhang X, Lu Y, **Li L**, Cui S. MiRNA-143 mediates the proliferative signaling pathway of FSH and regulates estradiol production. *Journal of Endocrinology*. 2017 Jul 1; 234(1):1-14.
15. Nie X, Lu X, **Li L***. First cell lineage specification in mammalian early development (in Chinese). *Chinese Science Bulletin*. 2017 May 3; 62(15), 1569-1577.
16. Liu W Wang F, Xu Q, Shi J, Zhang X, Lu X, Gao Z, Ma H, Zhao Z, Duan E, Gao F, Gao S*, Yi Z*, **Li L***. BCAS2 is involved in alternative mRNA splicing in spermatogonia and the transition to meiosis. *Nature Communications*. 2017 Jan 27; 8:14182.
17. Xiao Y, Ma H, Wan P, Qin D, Zhang X, Xiang Y, Wang X, Liu W, Chen J*, Yi Z*, and **Li L***. Trp-Asp (WD) repeat domain 1 is Essential for Mouse Peri-implantation Development and Regulates Cofilin Phosphorylation. *Journal of Biological Chemistry*. 2017 Jan 27; 292(4):1438-1448.
18. Liu Y, Lu X, Shi J, Yu X, Zhang X, Zhu K, Yi Z, Duan E, **Li L***. BTG4 is a key regulator for maternal mRNA clearance during mouse early embryogenesis. *Journal of Molecular Cell Biology* 2016 Aug; 8(4):366-8.



19. Ma H, Lin Y, Zhao Z, Lu X, Yu Y, Zhang X, Wang Q*, **Li L***. MicroRNA-127 Promotes Mesendoderm Differentiation of Mouse Embryonic Stem Cells by Targeting Left-right Determination Factor 2. *Journal of Biological Chemistry* 2016 Jun 3; 291(23):12126-35.
20. Xu Q, Wang F, Xiang Y, Zhang X, Zhao Z, Gao Z, Liu W, Lu X, Liu Y, Yu X, Wang H, Huang J, Yi Z, Gao S*, **Li L***. Maternal BCAS2 protects genomic integrity in mouse early embryonic development. *Development*. 2015 Nov 15; 142(22):3943-53.
21. Zhao Z-A, Yu Y, Ma H-X, Wang X, Lu X, Zhai Y, Zhang X-X, Wang H, **Li L***. The roles of ERAS during cell lineage specification of mouse early embryonic development. *Open Biology*. 2015 Aug; 5(8).
22. Zhao B, Zhang W, Duan Y, Lu Y, Cun Y, Li C, Guo K, Nie W, **Li L**, Zhang R, Zheng P. Filia Is an ESC-Specific Regulator of DNA Damage Response and Safeguards Genomic Stability. *Cell Stem Cell*. 2015 Apr 29.
23. Zhu K, Yan L, Zhang X, Lu X, Wang T, Yan J, Liu X, Qiao J*, **Li L***. Identification of a human subcortical maternal complex. *Molecular Human Reproduction*. 2015 Apr; 21(4): 320-9.
24. Yu X, Yi Z, Gao Z, Qin D, Zhai Y, Chen X, Ou-Yang Y, Wang Z, Zheng P, Zhu M, Wang H, Sun QY, Dean J*, **Li L***. The subcortical maternal complex controls symmetric division of mouse zygotes by regulating F-actin dynamics. *Nature Communications*. 2014 Sep 11; 5:4887.
25. Zhang S, Kong S, Wang B, Cheng X, Chen Y, Wu W, Wang Q, Shi J, Zhang Y, Wang S, Lu J, Lydon JP, DeMayo F, Pear WS, Han H, Lin H, **Li L**, Wang H, Wang YL, Li B, Chen Q, Duan E, Wang H. Uterine Rbpj is required for embryonic-uterine orientation and decidual remodeling via Notch pathway-independent and -dependent mechanisms. *Cell Research*. 2014 Aug; 24(8): 925-42.
26. Fu Z, Wang B, Wang S, Wu W, Wang Q, Chen Y, Kong S, Lu J, Tang Z, Ran H, Tu Z, He B, Zhang S, Chen Q, Jin W, Duan E, Wang H, Wang YL, **Li L**, Wang F, Gao S, Wang H. Integral proteomic analysis of blastocysts reveals key molecular machinery governing embryonic diapause and reactivation for implantation in mice. *Biology of Reproduction*. 2014 Mar; 90(3): 52, 1-11.
27. **Li L***, Lu X and Dean J*. The maternal to zygotic transition in mammals. *Molecular Aspects of Medicine*. 2013 Oct; 34(5): 919-38.
28. Xia P, Wang S, Du Y, Zhao Z, Shi L, Sun L, Huang G, Ye B, Li C, Dai Z, Hou N, Cheng X, Sun Q, **Li L**, Yang X, Fan Z. WASH inhibits autophagy through

- suppression of Beclin 1 ubiquitination. *The EMBO Journal*. 2013 Oct; 32(20): 2685-96.
29. Wang J, Xu M, Zhu K, **Li L**^{*}, Liu X^{*}. The N-terminus of FILIA forms an atypical KH domain with a unique extension involved in interaction with RNA. *PLoS ONE*. 7(1): e30209. Epub 2012 Jan 19.
30. Chen D, Zhang Y, Yi Q, Huang Y, Hou H, Zhang Y, Hao Q, Cooke HJ, **Li L**, Sun QY, Shi Q. Regulation of asymmetrical cytokinesis by cAMP during meiosis I in mouse oocytes. *PLoS ONE*. 2012; 7(1): e29735.
31. **Li L**^{*}, Zheng P and Dean J^{*}. Maternal Control of Early Mouse Development. *Development*. 2010 Mar; 137(6): 859-70.
32. **Li L**^{*}, Baibakov B and Dean J. A Subcortical Maternal Complex Essential for Pre-implantation Mouse Embryogenesis. *Developmental Cell*. 2008 Sep; 15(3): 416-25.
33. Ohsugi M, Zheng P, Baibakov B, **Li L**, and Dean J. Maternally Derived FILIA/MATER Complex Localizes Asymmetrically in Cleavage Stage Mouse Embryos, *Development*. 2008 Jan; 135(2): 259-69.
34. Ogata T, **Li L**, Yamada S, Yamamoto Y, Tanaka Y, Takei I, Umezawa K and Kojima I. Promotion of b-Cell Differentiation by Conophylline in Fetal and Neonatal Rat Pancreas, *Diabetes*. 2004 Oct; 53(10): 2596-2602.
35. **Li L**, Yi Z, Seno M, and Kojima I. Activin A and Betacellulin: Effect on Regeneration of Pancreatic b-Cells in Neonatal Streptozotocin-treated Rats, *Diabetes*. 2004 Mar; 53(3): 608-615.
36. **Li L**, Seno M, Yamada H, and Kojima I. Betacellulin Improved Glucose Metabolism by Promoting Conversion of Intra-islet Precursor Cells to-cells in Streptozotocin-treated Diabetic Mice, *American Journal of Physiology-endocrinology and Metabolism*. 2003 Sep; 285(3): E577-83.
37. **Li L**, Seno M, Yamada H, and Kojima I. Promotion of β -cell Regeneration by Betacellulin in 90% Pancreatectomized Rats. *Endocrinology*. 2001 Dec; 142(12): 5379-85.

写给考生的话:

欢迎对哺乳动物胚胎发育生物学感兴趣且具有积极进取精神的同学加盟我们的研究团队。

