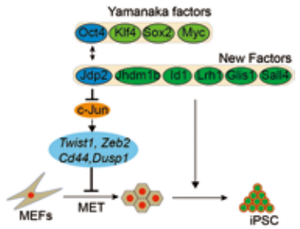
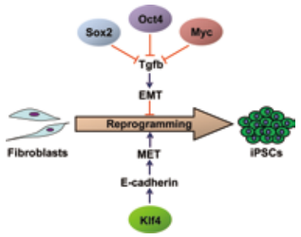
Research Group of Stem Cell Pluripotency and Reprogramming
Guangzhou Institutes of Biomedicine and Health, Chinese Academy of Sciences



建立全新的自主知识产权的重编程因子组合，发现C-Jun是重编程的障碍

Established the novel independent reprogramming combination with intellectual-property rights, and discovered that C-Jun is an obstacle of reprogramming



发现重编程过程中存在间充质-上皮转换（MET）过程

Discovered the MET progress during cell reprogramming

The research group launched the research of stem cell pluripotency early in China, pioneered and positively promoted the iPS cell technology, made systemic progress on cell mechanism and transdifferentiation research, discovered the new application and mechanism of Vitamin C in promoting the stem cell induce efficiency, proposed a new perspective of MET initiating cell reprogramming, set up the reprogram combination and nonintegrated transdifferentiation neural stem cell acquire technology with novel independent intellectual-property rights, opened up a new situation in the research field of stem cell, and vastly enhanced the overall innovation capacity of national stem cell research level. Through introducing international talents and cultivating talent youth, the group formed an innovative research group focusing on stem cell research, and made significant contributions for Chinese stem cell and regenerative medicine research on base construction, talent education and international development and cooperation.

Outstanding contributors of this research group

Pei Duanqing

Discovered the new application and mechanism of Vitamin C in promoting the stem cell reprogramming efficiency, revealed MET as the key process of initiating reprogramming, and established a novel independent reprogramming combination with intellectual-property rights.

Pan Guangjin

Established the technology of transdifferentiation for neural stem cells, and discovered the function of important transcription factor in the maintainance and differentiation of stem cells.

Miguel A. Esteban

Discovered Vitamin C efficiently promotes reprogramming, revealed the molecular mechanism of MET initiates reprogramming, and nominated as the outstanding representative of international science communication.

Major contributors

Chen Jiekai
Wang Tao
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Cai Jinglei
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Guo Lin
Sun Hao
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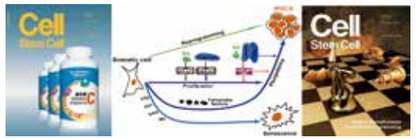
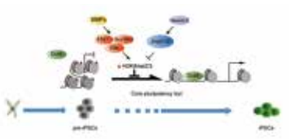


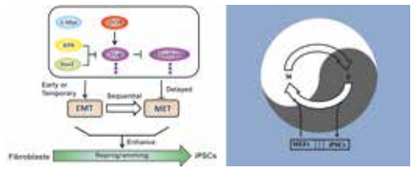
发现Vc能极大提高重编程效率，并通过Jhdm1a/1b作用促进重编程

Discovered that Vc promotes reprogramming efficiency, and facilitates the reprogramming through Jhdm1a/1b



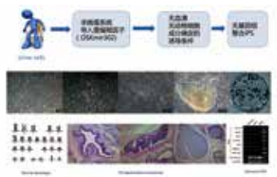
发现Vc通过去除组蛋白修饰（H3K9）促进重编程

Discovered that Vc promotes reprogramming through removing histone modification



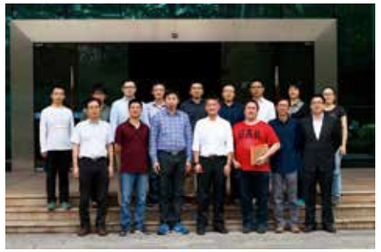
发现细胞在间充质状态与上皮状态之间的转换有利于提高重编程效率

Discovered that EMT/ MET between cell status promoting the reprogramming



建立尿液细胞非整合人iPS诱导技术体系

Established the nonintegrated human iPS system from urine cells



集体合影

Group photo

干细胞多能性与重编程机理研究集体

推荐单位：中国科学院广州生物医药与健康研究院

研究集体主要科技贡献：

该研究集体在我国较早开展干细胞多能性研究，率先突破 iPS 干细胞技术并积极推广，在机理和转分化研究中取得了系统突破，发现维生素 C 提高干细胞诱导效率的新用途和机制、提出 MET 启动重编程的新视角、建立全新自主知识产权重编程组合与非整合转分化获得神经干细胞新技术等，开创了干细胞研究领域新局面，极大地提高了我国在干细胞研究领域的整体创新能力。通过国际引智以及人才培养，形成了以干细胞研究为核心的创新研究群体，为我国干细胞与再生医学事业在基地建设、人才培养、国际化发展与合作等做出了重要贡献。

本集体的研究“干细胞多能性与重编程机理研究”获2013年度国家自然科学二等奖

The group research ”Stem Cell Pluripotency And Reprogram Mechanism” has won second class prize of 2013 “National Natural Science Award” remodeling

研究集体突出贡献者

裴端卿 Pei Duanqing

裴端卿 中国科学院广州生物医药与健康研究院

主要科技贡献：发现维生素C提高干细胞诱导效率的新用途和机制、揭示MET是重编程的关键步骤、建立全新自主知识产权重编程组合。

潘光锦 Pan Guangjin

潘光锦 中国科学院广州生物医药与健康研究院

主要科技贡献：建立转分化获得神经干细胞的技术，揭示重要转录因子在干细胞维持和分化中的作用。

Miguel A. Esteban

Miguel A. Esteban 中国科学院广州生物医药与健康研究院

主要科技贡献：发现维生素C高效促进重编程、揭示MET启始重编程的分子机理、是国际科技合作交流的优秀代表。

研究集体主要完成者

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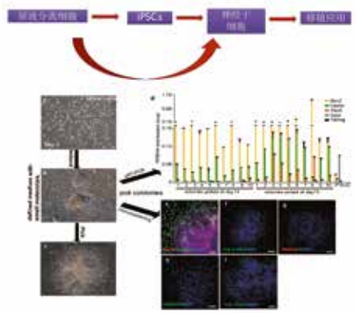
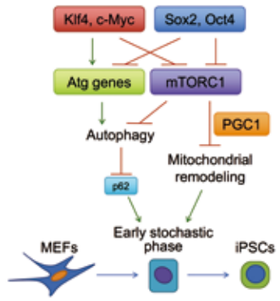
廖宝剑　蔡景蕾　张小飞　郭　琳　孙　昊　陈可实　黄文浩



利用病人尿液细胞获得可移植的神经干细胞

The generation of transplantable neural stem cells from human urine cells



发现了重编程早期自噬和mTORC1的复杂作用并阐明了细胞重塑的发生机制

Discovered the autophagy in early reprogram process and the complicated function of mTORC1, illustrated the mechanism of cell remodeling