

3rd International Conference on

PARKINSON'S DISEASE AND MOVEMENT DISORDERS

September 25-26, 2017 Chicago, USA

Reprogramming and programming of human hindbrain cells

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Human induced pluripotent stem cells (iPSCs) are derived from somatic cells, such as skin fibroblasts, which keep the whole set of disease genome and could mimic the genetic environment. Without high efficiency of motor neuron differentiation from human iPSCs, it is hard to model motor neuron diseases in a dish using human iPSCs. By the development of a method for efficient conversion human iPSCs into motor neurons, we have successfully modeled motor neuron diseases, such as spinal muscular atrophy (SMA) and amyotrophic lateral sclerosis (ALS) *in vitro*. This will help us understand motor neuron diseases deeply and help the development of effective treatment for the diseases.

Biography

Jianfeng Lu is a professor working in Tongji University, Shanghai, China. He has been working in the field of pluripotent stem cells and neuroscience for more than 12 years. By modulating signaling pathways, he and his colleagues are now able to efficiently convert human pluripotent stem cells into different subtypes of neural cells, which offer very useful tools for modeling diseases, for screening drugs and for cell therapy.

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