

A New Lecture Series Focused on Induced Pluripotent Stem Cells



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Synthetic RNA technologies for cell identification and purification

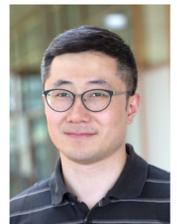
My scientific research career, to date, has focused on the molecular and cellular events governed by RNA and RNA-protein (RNP) interaction networks, aiming to design synthetic RNA and RNP-based molecules and circuits to analyze and control living systems. In this seminar, I would like to introduce our RNA switch technologies, that may facilitate to identify and purify target cell for future cell therapy. **RNA switch is synthetic mRNAs that can detect, purify, and control target cell functions by detecting intracellular microRNAs or proteins.** We developed protein- and microRNA (miRNA) -responsive RNA switches and genetic circuits that enable to control translation of transgenes. Importantly, miRNA switches can be used as RNA-delivery platform, which enables us to treat cells without genomic damage caused by random genomic integration. Indeed, using miRNA switch systems, we have succeeded in detecting and purifying many cell types including iPS cells-derived cardiomyocyte and neurons.



Miltenyi Biotec

Chao Sheng, PhD

Product Manager at Miltenyi Biotec GmbH, Germany



CliniMACS Prodigy® Adherent Cell Culture System:

Automate GMP-compliant manufacturing of various stem cells and their derivatives in a closed and scalable system

Regenerative medicine has become a key focus worldwide and the number of stem cell-based clinical trials are rapidly increasing every year. Yet, large-scale and GMP-compliant stem cell manufacturing is still a major hurdle for clinical applications across the globe. In this talk, Dr. Chao Sheng from Miltenyi Biotec will show you how to implement GMP-compliant and scalable manufacturing of different adherent stem cells and their derivatives, such as pluripotent stem cells and pluripotent stem cell-derived dopaminergic progenitors or cardiomyocytes, in the closed and automated CliniMACS Prodigy® Adherent Cell Culture System.