iPSC

SEP 28th 2020 | **10AM CET VIRTUAL**

A New Lecture Series Focused on Induced Pluripotent Stem Cells

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CiRA

HOW TO OVERCOME IMMUNE REJECTION OF iPS CELLS BY GENOME EDITING

Derivative cells or organoids from induced pluripotent stem cells (iPSCs) hold great potential for regenerative medicine. However, immune rejection caused by HLA-mismatch is a concern for cost-effective allogenic cell therapy approach. While B2M gene knockout and HLA-homozygous iPSC stocks are being investigated, the former approach may induce NK cell activity and fail to present antigens, the latter is challenging to recruit rare donors. We recently demonstrated that biallelic disruption of HLA-A, -B and HLA class II genes successfully reduced killer and helper T cell reactivity, while suppressed NK cell activity, by leaving at least one allele of HLA-C. With this strategy, we estimated that preparation of 12 kinds of HLA-C-retained iPSC lines are immunologically compatible with over 90% of the world-wide population. Currently, in addition to the HLA homozygous iPSC stock, we are now preparing to generate clinical grade HLA-edited iPSC stock to facilitate cost-effective iPSC-based cell therapy applications.

Don`t miss the chance!
YOU COULD BE MENTIONED HERE!

You are a young researcher and working with iPSC?
Do you would like to present your project?
Submit an abstract and CV to melanie.generali@uzh.ch

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