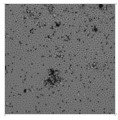

Human Primary T Cells: A Practical Guide

Version 3

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ABSTRACT

Human primary T cells are invaluable and feasible model systems to study the characteristics of the human immune cells in various contexts, including but not limited to cancer immunotherapy. Following isolation of T cells from fresh human blood samples, it is possible to culture, expand, and manipulate these cells, which allows extensive investigation for research purposes. Techniques for isolation and handling of T cells are well-established but parts of the protocols can highly vary across different labs. These differences in the protocols are, often, there due to historical reasons and are only supported by anecdotal evidence. We systematically modified basic components of the T cell culturing protocols and collected data on how they altered the final yield. Here, based on these data, we provide practical hints and tips on basic cellular and molecular techniques for handling primary human T cells. We hope that this guide will serve as a reference point to allow evaluate, discuss, and improve current practices in T cell culturing and manipulation.

TAGS

tissue culture

electroporation

Show tags

EXTERNAL LINK

https://github.com/hammerlab/t-cell-guide

PROTOCOL STATUS

Working

We use this protocol in our group and it is working

Collection protocols

CRISPR/Cas9-based knock-out in human primary T cells (24-well setup)
by Bulent Arman Aksoy,
Medical University of South Carolina

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Human primary T cell culture media
by Bulent Arman Aksoy,
Medical University of South Carolina

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Resazurin viability assay for human primary T cells in 96-well format
by Bulent Arman Aksoy,
Medical University of South Carolina

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PBMC isolation from buffy coat
by Bulent Arman Aksoy,
Medical University of South Carolina

START EXPERIMENT

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