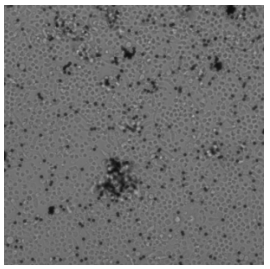
Nov 06, 2018 Version 2

Human Primary T Cells: A Practical Guide V.2



DOI
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DOI: dx.doi.org/10.17504/protocols.io.vcfe2tn

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

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Protocol status: Working
We use this protocol and it's working

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Keywords: T cells, human primary cells, tissue culture, electroporation, optimization, standardization, PBMC, activation

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.

Files

SEARCH

Protocol

NAME

Human primary T cell culture media

VERSION 1

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Protocol

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PBMC isolation from buffy coat

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Protocol

NAME

CRISPR/Cas9-based knock-out in human primary T cells (24-well setup)

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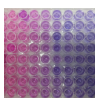
Protocol



NAME

Resazurin viability assay for human primary T cells in 96-well format

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