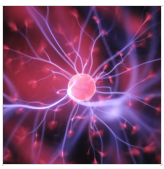

Sep 16, 2020

Cell culture

In 1 collection

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1 *Works for me* This protocol is published without a DOI.

Neurodegeneration Method Development Community
Tech. support email: **ndcn-help@chanzuckerberg.com**

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ABSTRACT

This protocol explains the cell culture and characterization of lines ND1014, N1, and ND27760 from *Synthetic mRNAs Drive Highly Efficient iPS Cell Differentiation to Dopaminergic Neurons*.

EXTERNAL LINK

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6344911/

THIS PROTOCOL ACCOMPANIES THE FOLLOWING PUBLICATION

Synthetic mRNAs Drive Highly Efficient iPS Cell Differentiation to Dopaminergic Neurons. Xue Y, Zhan X, Sun S, Karuppagounder SS, Xia S, Dawson VL, Dawson TM, Laterra J, Zhang J, Ying M. Stem Cells Transl Med. 2019 Feb;8(2):112-123. doi: 10.1002/sctm.18-0036. Epub 2018 Nov 1. PMID: 30387318

PROTOCOL CITATION

Yingchao Xue, Xiping Zhan, Shisheng Sun, Senthilkumar S. Karuppagounder, Shuli Xia, Valina L Dawson, Ted M Dawson, John Laterra, Jianmin Zhang, Mingyao Ying 2020. Cell culture . **protocols.io** https://protocols.io/view/cell-culture-9e6h3he

MANUSCRIPT CITATION please remember to cite the following publication along with this protocol

Synthetic mRNAs Drive Highly Efficient iPS Cell Differentiation to Dopaminergic Neurons. Xue Y, Zhan X, Sun S, Karuppagounder SS, Xia S, Dawson VL, Dawson TM, Laterra J, Zhang J, Ying M. Stem Cells Transl Med. 2019 Feb;8(2):112-123. doi: 10.1002/sctm.18-0036. Epub 2018 Nov 1. PMID: 30387318

EXTERNAL LINK

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6344911/

COLLECTIONS

Protocols for Synthetic mRNAs Drive Highly Efficient iPS Cell Differentiation to Dopaminergic Neurons

KEYWORDS

Culture, maintenance, ND1014, N1, ND27760, ipsc, SNCA

CREATED

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OWNERSHIP HISTORY

Nov 17, 2019 Liz Brydon Protocols.io

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PROTOCOL INTEGER ID

29886

PARENT PROTOCOLS

Part of collection

Protocols for Synthetic mRNAs Drive Highly Efficient iPS Cell Differentiation to Dopaminergic Neurons

MATERIALS

NAME	CATALOG #	VENDOR
ReLeSR™ 100 mL	5872	Stemcell Technologies
mTeSR™1 500 mL Kit	5850	Stemcell Technologies
CytoTune™-iPS 2.0 Sendai Reprogramming Kit	A16517	Thermo Fisher

SAFETY WARNINGS

Please refer to the Safety Data Sheets (SDS) for safety and environmental hazards.

BEFORE STARTING

Obtain approval to work with human stem cells from an appropriate Institutional Review Board.

Cell Culture

1 Obtain human iPSC lines from Coriell Cell Repositories or through reprogramming patient cells.
Step 1 includes a Step case.
Purchase iPSC
Reprogram iPSC

step case

Purchase iPSC

Obtain human iPSC lines from Coriell Cell Repositories (derived from normal human skin fibroblasts).

2 Characterize pluripotency of iPSCs by immunochemistry for pluripotent cell markers (NANOG, OCT4, TRA-1-60, and SSEA-3) and through embryoid body formation assay.

3 Maintain iPSCs as feeder-free cultures in mTESR1 medium in 5% CO_2/95% air condition at **37 °C** and passage using ReLeSR.

4 Perform karyotype analysis of G-banded metaphase chromosomes to confirm the chromosomal integrity of iPSCs.