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

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 20483

Differentiation of NPC into cortical neurons

In 1 collection

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Neurodegeneration Method Development Community

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ATTACHMENTS

[IPSC CORTICAL DIFFERENTIATION 022017.pdf](#)

GUIDELINES

This protocol is part of the [IPSC CORTICAL DIFFERENTIATION](#) collection.

This method should be performed using sterile technique.

MATERIALS

Please refer to the attached full manuscript for required materials.

SAFETY WARNINGS

Please refer to the SDS (Safety Data Sheet) for information about hazards, and to obtain advice on safety precautions.

BEFORE START INSTRUCTIONS

IMPORTANT: To generate cortical neurons, NPCs must be at passage 4 or lower at the time of plating for terminal differentiation. NPCs that are beyond passage 4 may exhibit higher densities of astrocyte contamination or inefficient neuronal differentiation.

- 1 Ensure cells are plated at an appropriate density (e.g.: 150K/well in 12-well plate; 75- 50K/well for 48 well plates; 30K/well for 8-well chamber slides) in NIM on pre-coated PLO/laminin plates.

- 2 After 24:00:00, replace with cortical neuron differentiation medium (Neurobasal medium, 1x B27, 20 ng/mL BDNF, 20 ng/mL GDNF, 0.5mM cAMP, 1% Glutamax, 1% penicillin/streptomycin)
- 3 Feed cells every 2-3 days for 30 days.