

Materials List for

Phenotypic Profiling of Human Stem Cell-Derived Midbrain Dopaminergic Neurons

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jove.com/video/65570

Materials

| Name | Company | Catalog Number | Comments |
|---|------------------------|---|--|
| Anti- chicken – Alexa 647 | Jackson ImmunoResearch | 703-605-155 | Immunofluorescence |
| Anaconda | | https://www.anaconda.com/download | |
| Anti-Map2 | Novus | NB300-213 | Immunofluorescence |
| Anti-mouse - Alexa 488 | Thermo Fisher | A11001 | Immunofluorescence |
| Anti-rabbit - Alexa 555 | Thermo Fisher | A21429 | Immunofluorescence |
| Anti-Tyrosine Hydroxylase | Merck | T2928 | Immunofluorescence |
| Anti- α -synuclein | Abcam | 138501 | Immunofluorescence |
| Bravo Automated Liquid Handling Platform with 384ST head | Agilent | | If no liquid handler is available, the use of an electronic multichannel pipette is recommended. |
| Confocal microscope | Yokogawa | CV7000 | The use of an automated confocal fluorescence microscope is recommended to ensure image quality consistency. |
| Countess Automated cell counter | Invitrogen | | Cell counting before seeding. Can also be done using a manual counting chamber. |
| DPBS +/- | Gibco | 14040-133 | Buffer for washing |
| EL406 Washer Dispenser | BioTek (Agilent) | | If no liquid handler is available, the use of an electronic multichannel pipette is recommended. |
| Formaldehyde Solution (PFA 16 %) | Euromedex | EM-15710-S | Fixation before staining |
| Hoechst 33342 | Invitrogen | H3570 | Nuclear staining |
| iCell Base Medium 1 | Fujifilm | M1010 | Base medium for neurons |
| iCell DPN, Donor#01279, Phenotype AHN, lot#106339, 1M | Fujifilm | C1087 | Apparently healthy donor |
| iCell DPN, Donor#11299, Phenotype LRRK2 G2019S, phenotype PD lot#106139 | Fujifilm | C1149 | Donor carrying LRRK2 G2019S mutation |
| iCell Nervous System Supplement | Fujifilm | M1031 | Supplement for base medium |
| iCell Neural Supplement B | Fujifilm | M1029 | Supplement for base medium |

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|-----------------------------------|----------------------|---|---|
| Jupyter Python Notebook | In-house development | https://github.com/Ksilink/Notebooks/tree/main/Neuro/DopaNeuronProfiling | Notebook to perform phenotypic profile visualization and classification from raw data. |
| Laminin | Biolamina | LN521 | Plate coating |
| PFE-360 | MedChemExpress | HY-120085 | LRRK2 kinase inhibitor |
| PhenoLink | In-house development | https://github.com/Ksilink/PhenoLink | Software for image analysis |
| PhenoPlate 384w, PDL coated | Perkin Elmer | 6057500 | Pre-coated plate for cell culture and imaging. This plate allows imaging of all wells using all objectives of the Yokogawa CV7000 microscope. |
| Storage plates Abgene 120 μ L | Thermo Scientific | AB-0781 | Necessary for compound dispensing using the Vprep pipetting system. If not available, the use of an electronic multichannel pipette is recommended. |
| Triton | Sigma | T9284 | Permeabilization before lysis |
| Trypan Blue | Sigma | T8154-20ML | Determination of living cells |
| Vprep Pipetting System | Agilent | | Medium change and compound dispensing. Alternatively, an electronic multichannel pipette can be used. |