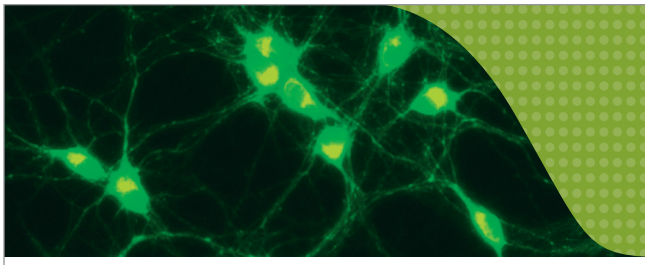

NeuroFluor™ NeuO

Selectively Label Live Neurons

Introduction

NeuroFluor™ NeuO is a membrane-permeable fluorescent probe that selectively labels primary and pluripotent stem cell-derived neurons in live cultures.[1] Cells labeled with NeuroFluor™ NeuO can be visualized using fluorescent imaging. Labeling with this probe is non-permanent; it can be washed off, providing unlabeled, viable cells for downstream applications. Fluorescent properties: excitation 468 nm, emission 557 nm.

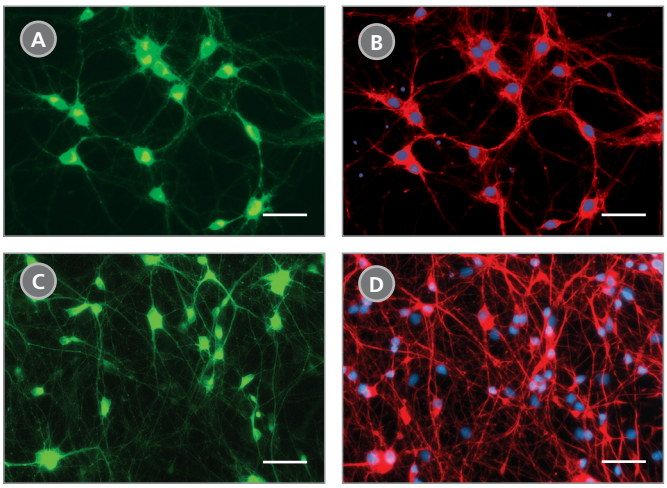

Figure 1. NeuroFluor™ NeuO Selectively Labels Primary and hPSC-Derived Neurons

(A) Neurons derived from primary rat cortical tissues were cultured in BrainPhys™ Neuronal Medium with NeuroCult™ SM1 Neuronal Supplement. After 8 days of culture, primary neurons were labeled with NeuroFluor™ NeuO (green). (B) The same culture was later fixed and immunostained for class III β-tubulin (red). Nuclei are counterstained with DAPI. (C) Neuronal precursors generated from hPSC-derived (XCL-1) neural progenitor cells were cultured in STEMdiff™ Neuron Maturation Medium. After 18 days of culture, hPSC-derived neurons were labeled with NeuroFluor™ NeuO (green). (D) The same culture was later fixed and immunostained for class III β-tubulin (red). Nuclei are counterstained with DAPI. The images show that NeuroFluor™ NeuO specifically labels class III β-tubulin-positive neurons. Scale bars = 50 µm.

Why use NeuroFluor™ NeuO?

NO FIXATION. Enables selective labeling of primary and hPSC-derived neurons without fixation.

NON-PERMANENT. Non-toxic and can be washed off.

VERSATILE. Can be used to confirm neuronal differentiation of human pluripotent stem cell-derived NPCs.

FUNCTIONAL. Can be used to label neurons in live culture.

CONVENIENT. Simple and rapid labeling protocol.

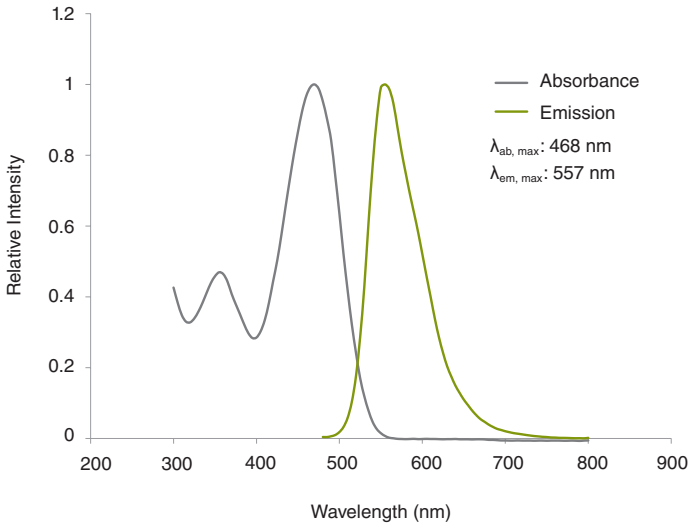

Figure 2. Fluorescent Properties of NeuroFluor™ NeuO

Excitation 468 nm, emission 557 nm.

NeuroFluor™ NeuO is designed for use in the characterization stage of the hPSC-Derived Neural Cell Research and Primary Neuronal Research workflows

hPSC-Derived Neural Cell Research: Cell Sourcing → Neural Induction → Expansion → Differentiation and Maturation → Characterization

NeuroFluor™ NeuO

Primary Neuronal Research: Tissue Dissociation → Cell Culture → Characterization

NeuroFluor™ NeuO

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NeuroFluor™ NeuO

Selectively Label Live Neurons

Applications of NeuroFluor™ NeuO

- Label live hPSC-derived neurons in culture without fixation.
- Label tissue sections of mouse brain through an intravenous injection of NeuroFluor™ NeuO.
- Locate neuronal cell bodies for electrophysiology experiments.
- Isolate live neurons from rodent brain tissues using fluorescence-activated cell sorting (FACS).

NeuroFluor™ CDr3

NeuroFluor™ CDr3 is a membrane-permeable fluorescent probe that selectively labels live primary and hPSC-derived neural progenitor cells without fixation.

Product Information for NeuroFluor™ NeuO

PRODUCT	SIZE	CATALOG #
NeuroFluor™ NeuO	0.1 mL	01801

Other Products for Primary and hPSC-Derived Neuronal Culture Research

PRODUCT	SIZE	CATALOG #
BrainPhys™ Neuronal Medium	500 mL	05790
BrainPhys™ Without Phenol Red	500 mL	05791
BrainPhys™ Neuronal Medium and SM1 Kit	500 mL Kit	05792
BrainPhys™ Neuronal Medium N2-A & SM1 Kit	500 mL Kit	05793
NeuroCult™ SM1 Neuronal Supplement	10 mL	05711
STEMdiff™ Neuron Differentiation Kit	1 Kit	08500
STEMdiff™ Neuron Maturation Kit	1 Kit	08510
STEMdiff™ Dopaminergic Neuron Differentiation Kit	1 Kit	08520
STEMdiff™ Dopaminergic Neuron Maturation Kit	1 Kit	08530
NeuroFluor™ CDr3	0.5 mL	01800

Reference

1. Er JC et al. (2017) Angew Chem Int Ed 54(8) 2442-6.