NeuroFluor™ CDr3

Membrane-Permeable Fluorescent Probe for the Detection of Neural Progenitor Cells

Catalog # 01800 0.5 mL

STEMCELL™ TECHNOLOGIES
Scientists Helping Scientists™ | WWW.STEMCELL.COM
TOLL FREE PHONE 1 800 667 0322 • PHONE +1 604 877 0713
INFO@STEMCELL.COM • TECHSUPPORT@STEMCELL.COM
FOR GLOBAL CONTACT DETAILS VISIT OUR WEBSITE

Product Description

NeuroFluor™ CDr3 is a membrane-permeable fluorescent probe that selectively labels live primary and pluripotent stem cell-derived neural progenitor cells. NeuroFluor™ CDr3-labeled cells can be visualized using fluorescent imaging, quantified using flow cytometry, and isolated using fluorescent-activated cell sorting (FACS). Labeling with this probe is non-permanent; it can be washed off, providing unlabeled, viable cells for downstream applications. NeuroFluor™ CDr3 binds specifically to mouse, rat, and human fatty acid binding protein 7 (FABP7). For additional information, see References.

Concentration: 100 µM stock solution in dimethyl sulfoxide (DMSO).
Molecular weight: 571.64
Ex/Em: 579/604 nm

- Enables selective labeling of mouse, rat, or human neural progenitor cells, without fixation
- Can be used for confirmation of neural induction of human pluripotent stem cells
- Can be used to label live cells for fluorescent imaging, flow cytometry, and FACS
- Non-toxic and non-permanent
- Simple and rapid labeling protocol

Properties

Storage: Store at -20°C.

Shelf Life: For product expiry date, please contact techsupport@stemcell.com. Protect product from prolonged exposure to light.

Contains:
- 100 µM CDr3 (CAS: 1357577-75-3)
- DMSO

Please refer to the Material Safety Data Sheet (MSDS). This product contains components dissolved in dimethyl sulfoxide (DMSO). DMSO is a strong solvent and skin penetrant, and can transport many substances through the skin. DMSO can also penetrate some protective glove materials including latex and silicone. Extra caution should be utilized when handling this product.

Handling / Directions For Use

Thaw NeuroFluor™ CDr3 at room temperature (15 - 25°C).
NOTE: If not used immediately, aliquot and store at -20°C.

NeuroFluor™ CDr3 may be used to label human embryonic stem (ES) and induced pluripotent stem (iPS) cell- or central nervous system (CNS)-derived neural progenitor cells (human, mouse, or rat). NeuroFluor™ CDr3 is designed for labeling live cells; it is not recommended for use with fixed cells.

For instructions on how to generate neural progenitor cells from human ES and iPS cells, refer to the Technical Manual: Generation and Culture of Neural Progenitor Cells using the STEMdiff™ Neural System (Document #28782), available on our website at www.stemcell.com or contact us to request a copy.

A. PREPARATION OF LABELING MEDIUM

NOTE: Protect labeling medium from light.

The suggested working concentration of NeuroFluor™ CDr3 is 1 - 2 µM. It is recommended to titrate the concentration for each application. Dilute NeuroFluor™ CDr3 (100 µM) in the appropriate warm (37°C) medium:
· For ES or iPS cell-derived neural progenitor cells, use STEMdiff™ Neural Induction Medium (Catalog #05835).
· For CNS-derived neural progenitor cells, use Complete NeuroCult™ Proliferation Medium with cytokines.

NOTE: NeuroCult™ Proliferation Medium is available for human (Catalog #05751), mouse (Catalog #05702), or rat (Catalog #05771). Supplementation with cytokines is required. For instructions on the preparation of complete NeuroCult™ Proliferation Medium with cytokines, refer to the Technical Manuals for human (Document #28724), mouse (Document #28704), or rat (Document #28725), available on our website at www.stemcell.com or contact us to request a copy.

B. LABELING PROCEDURE

NOTE: The following are instructions for labeling ES or iPS cell- or CNS-derived neural progenitor cells in one well of a 24-well plate. If using other cultureware, adjust volumes accordingly.

1. Aspirate medium and add 1 mL of labeling medium (see section A).
2. Incubate at 37°C for 1 - 1.5 hours.
3. Remove labeling medium.
4. Wash 2 - 3 times with 1 mL of warm (37°C) phosphate-buffered saline (PBS).

OPTIONAL: Labeling of cell nuclei
   a. Add 0.5 mL of PBS containing 2 µg/mL DAPI (Sigma Catalog #D9542).
   b. Incubate at 37°C for 10 - 15 minutes.
   c. Wash twice with 1 mL of PBS.

5. Add 1 mL of medium:
   · For ES or iPS cell-derived neural progenitor cells, use STEMdiff™ Neural Induction Medium.
   · For CNS-derived neural progenitor cells, use Complete NeuroCult™ Proliferation Medium with cytokines.
6. Visualize NeuroFluor™ CDr3 labeling using a fluorescent microscope with appropriate filter sets (CDr3 Ex/Em: 579/604 nm).

NOTE: Cells should be visualized as soon as possible after labeling, as the NeuroFluor™ CDr3 signal may diminish over time.

References

Yun S, et al. Proc Natl Acad Sci USA 109(26): 10214-10217, 2012
Leong C, et al. Stem Cell Res 11(3): 1314-1322, 2013