Anti-Oligodendrocyte Marker O4-NL493

Catalog Number: NL1326G
Lot Number: ADHK02
100 Tests in 50 µL staining volume
20 Tests in 250 µL staining volume

Reagents Provided

NorthernLights™ 493 (NL493)-conjugated mouse monoclonal anti-Oligodendrocyte Marker O4: Supplied as a 10X solution of antibody in 0.5 mL PBS containing 0.09% sodium azide.

Clone #: O4

Isotype: mouse IgM

Storage

Reagents are stable for **twelve months** from date of receipt when stored in the dark at 2-8° C.

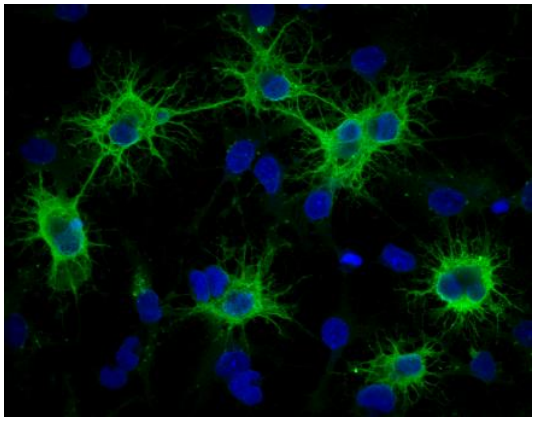
Intended Use

Designed to visualize the expression of Oligodendrocyte Marker O4 by fluorescence microscopy.

Product Description

This antibody was produced from a hybridoma resulting from the fusion of a mouse myeloma with B cells obtained from a mouse immunized with white matter of corpus callosum from bovine brain (1). The IgM fraction of the tissue culture supernatant was purified by anti-IgM chromatography. The purified antibody was then conjugated to fluorochrome NL493. The spectral characteristics of NL493 are provided, along with those of FITC and Alexa Fluor® 488 for comparison.

Fluorochrome	Absorption Maximum (nm)	Emission Maximum (nm)
NL493	493	514
FITC	492	520
Alexa Fluor® 488	495	519



Oligodendrocyte Marker O4-NL493

Seven day differentiated rat cortical stem cells were stained with NL493-conjugated anti-Oligodendrocyte Marker O4 (Catalog # NL1326G; green) and counterstained with DAPI (blue).

Background Information

Oligodendrocytes are myelinating cells in the central nervous system (CNS) and form the myelin sheath of axons to support rapid nerve conduction. Oligodendrocyte Marker O4 is an antigen on the surface of oligodendrocyte progenitors (2, 3). It has been commonly used as the earliest recognized marker specific for the oligodendroglial lineage (4-9).

References

1. Sommer, I. and M. Schachner (1981) Dev. Biol. **83**:311.
2. Schachner, M. *et al*. (1981) Dev. Biol. **83**:328.
3. Bansal, R. *et al*. (1989) J. Neurosci. Res. **24**:548.
4. Bansal, R. and S.E. Pfeiffer (1989) Proc. Natl. Acad. Sci. USA **86**:6181.
5. Gard, A. *et al*. (1995) Dev. Biol. **167**:596.
6. Reynolds, R. and R. Hardy (1997) J. Neurosci. Res. **47**:455.
7. Ono, K. *et al*. (1997) J. Neurosci. Res. **48**:212.
8. Pang, Y. *et al*. (2000) J. Neurosci. Res. **62**:510.
9. Cai, Z. *et al*. (2001) Brain Res. **898**:126.

Immunocytochemistry Validation

This antibody has been tested for immunocytochemistry using 7 day differentiated rat cortical stem cells. Cells were fixed in PBS containing 4% paraformaldehyde, and blocked with PBS containing 10% normal donkey serum and 1% BSA. After blocking, cells were incubated with NL493-conjugated antibody at a final concentration of 1X (1:10 dilution) in blocking buffer for 3 hours at room temperature in the dark. Between each step, cells were washed with PBS containing BSA. If a staining volume of 250 µL is used, this kit can be used for 20 tests; 100 tests can be done in a staining volume of 50 µL.

Warning: Contains sodium azide as a preservative - sodium azide may react with lead and copper plumbing to form explosive metal azides. Flush with large volumes of water during disposal.

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