Anti-Neuron-specific β-III Tubulin-NL557

Catalog Number: NL1195R
Lot Number: AATU03
100 Tests in 50 µL staining volume
20 Tests in 250 µL staining volume

Reagents Provided

NorthernLights™ 557 (NL557)-conjugated mouse monoclonal anti-Neuron-specific β-III Tubulin: Supplied as a 10X solution of antibody in 0.5 mL PBS containing 0.1% sodium azide.

Clone #: TuJ-1

Isotype: mouse IgG_{2A}

Storage

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

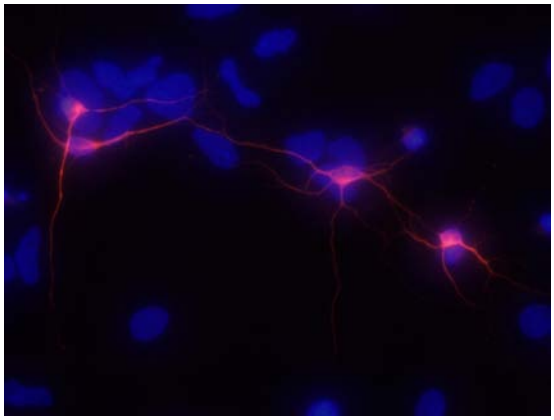
Intended Use

Designed to visualize the expression of Neuron-specific β-III Tubulin 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 rat brain-derived microtubules.[1] The IgG fraction of the tissue culture supernatant was purified by Protein G affinity chromatography. The purified antibody was then conjugated to fluorochrome NL557. The spectral characteristics of NL557 are provided, along with those of Rhodamine Red™-X (RRX) and Cy™3 for comparison.

Fluorochrome	Absorption Maximum (nm)	Emission Maximum (nm)
NL557	557	574
RRX	570	590
Cy3	548	562



Neuron-specific β-III Tubulin-NL557

Differentiated rat cortical stem cells were stained with NL557-conjugated anti-Neuron-specific β-III Tubulin (Catalog # NL1195R, red) and counterstained with DAPI (blue).

Background Information

β-III Tubulin, also known as tubulin β-4, is regarded as a neuron-specific marker. The expression of β-III Tubulin has been suggested to be one of the earliest markers to signal commitment in primitive neuroepithelium. This antibody reacts with mammalian and chicken neuron-specific β-III Tubulin but not with other β-tubulin isotypes in glial cells.[1, 2] This antibody stains neuronal cell bodies, dendrites, axons, and axonal terminations[3] and is commonly used in the identification of newly committed neurons.

References

1. Caccamo, D. *et al*. (1989) Lab. Invest. **60**:390.
2. Alexander, J.E. *et al*. (1991) Proc. Natl. Acad. Sci. USA **88**:4685.
3. Geisert, E.E. *et al*. (1989) Neurosci. Lett. **102**:137.

Immunocytochemistry Validation

This antibody has been tested for immunocytochemistry using differentiated rat cortical stem cells. Cells were fixed in PBS containing 4% paraformaldehyde, and blocked with PBS containing 10% normal donkey serum, 0.1% Triton® X-100, and 1% BSA. After blocking, cells were incubated with NL557-conjugated antibody at a final concentration of 1X (1:10 dilution) in blocking buffer for 3 hours ar room temperature, or overnight at 4° C, 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.

FOR RESEARCH USE ONLY. NOT FOR USE IN HUMANS.

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