Revision 1

Store at -20C

#8572

Neuronal Marker IF Antibody Sampler Kit

1 Kit (5 x 20 microliters)

Cell Signaling TECHNOLOGY®

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Product Includes	Product #	Quantity	Mol. Wt	Isotype/Source
GFAP (D1F4Q) XP® Rabbit mAb	12389	20 µl	50 kDa	Rabbit IgG
CNPase (D83E10) XP® Rabbit mAb	5664	20 µl	47 kDa	Rabbit IgG
β3-Tubulin (D71G9) XP® Rabbit mAb	5568	20 µl	55 kDa	Rabbit IgG
Nestin (Rat-401) Mouse mAb	4760	20 µl		Mouse IgG1
Neurofilament-L (C28E10) Rabbit mAb	2837	20 µl	70 kDa	Rabbit IgG

Please visit cellsignal.com for individual component applications, species cross-reactivity, dilutions, protocols, and additional product information.

Description

The Neuronal Marker IF Antibody Sampler Kit provides an economical means for labeling neuronal structures by immunofluorescence (IF-F). This kit includes enough primary antibody to perform at least forty IF-F tests or two western blot experiments per primary antibody.

Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at –20°C. Do not aliquot the antibody.

Background

The antibodies in this kit serve as neuronal markers to determine protein localization in neurons. The cytoskeleton consists of three types of cytosolic fibers: microfilaments (actin filaments), intermediate filaments, and microtubules. Neurofilaments are the major intermediate filaments found in neurons and consist of light (NFL), medium (NFM), and heavy (NFH) subunits (1). Nestin is an intermediate filament family member protein that is structurally related to the neurofilament proteins (2). Globular tubulin subunits comprise the microtubule building block, with α/β-tubulin heterodimers forming the tubulin subunit common to all eukaryotic cells (3). High CNPase expression is seen in oligodendrocytes and Schwann cells as CNPase accounts for roughly 4% of the total myelin protein in the central nervous system (4). CNPase binds to tubulin heterodimers and plays a role in tubulin polymerization and oligodendrocyte process outgrowth (5). GFAP filaments are characteristic of differentiated and mature brain astrocytes. Thus, GFAP is commonly used by investigators as a marker for intracranial and intraspinal tumors arising from astrocytes (6).

Background References

1. Al-Chalabi, A. and Miller, C.C. (2003) *Bioessays* 25, 346-55.
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4. Kozlov, G. et al. (2003) *J Biol Chem* 278, 46021-8.
5. Lee, J. et al. (2005) *J Cell Biol* 170, 661-73.
6. Goebel, H.H. et al. (1987) *Acta Histochem Suppl* 34, 81-93.

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