Revision 1

Store at -20C

Neuronal Marker IF Antibody Sampler Kit II

#24544

1 Kit (5 x 20 microliters)

Cell Signaling TECHNOLOGY®

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Product Includes	Product #	Quantity	Mol. Wt	Isotype/Source
Doublecortin (A8L1U) Rabbit mAb	14802	20 µl		Rabbit IgG
NeuN (D4G4O) XP® Rabbit mAb	24307	20 µl	46-55 kDa	Rabbit IgG
GFAP (GA5) Mouse mAb	3670	20 µl	50 kDa	Mouse IgG1
Myelin Basic Protein (D8X4Q) XP® Rabbit mAb	78896	20 µl	12-18 kDa	Rabbit IgG
Ki-67 (D3B5) Rabbit mAb	9129	20 µl		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 II provides an economical means for labeling cell types and cell structures by immunofluorescence (IF-F).

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 markers to determine cell types in the brain. Doublecortin is a microtubule associated protein that stabilizes and bundles microtubules. Doublecortin is expressed in neuronal precursor cells and expression is downregulated as neurons mature (1). Neuronal nuclei (NeuN, Fox-3, RBFOX3) is a nuclear protein expressed in most post-mitotic neurons of the central and peripheral nervous systems. NeuN is not detected in Purkinje cells, sympathetic ganglion cells, Cajal-Retzius cells, INL retinal cells, inferior olivary, or dentate nucleus neurons (2). As Doublecortin is downregulated, NeuN is upregulated (1,2). GFAP filaments are characteristic of differentiated and mature brain astrocytes. In addition, GFAP is commonly used by investigators as a marker for intracranial and intraspinal tumors arising from astrocytes (3). Myelin basic protein (MBP) is an abundant central nervous system (CNS) myelin membrane protein that plays an important role in nerve myelination. Myelin sheaths are multi-layered membranes derived from oligodendrocytes (4). Ki-67 is universally expressed among proliferating cells and absent in quiescent cells. Specifically, it is detected in proliferating cells in G1, S, G2, and mitosis, but not in the G0 resting phase (5).

Background References

1. Brown, J.P. et al. (2003) *J Comp Neurol* 467, 1-10.
2. Mullen, R.J. et al. (1992) *Development* 116, 201-11.
3. Goebel, H.H. et al. (1987) *Acta Histochem Suppl* 34, 81-93.
4. Harauz, G. and Boggs, J.M. (2013) *J Neurochem* 125, 334-61.
5. Gerdes, J. et al. (1983) *Int J Cancer* 31, 13-20.

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