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Oligodendrocyte Marker Antibody



Orders:	877-616-CELL (2355 orders@cellsignal.com
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1 Kit (8 x 20 microliters)

Product Includes	Product #	Quantity	Mol. Wt	Isotype/Source
Olig2 (E6G6Q) XP [®] Rabbit mAb	65915	20 µl	35 kDa	Rabbit IgG
Myelin Basic Protein (D8X4Q) XP [®] Rabbit mAb	78896	20 µl	12-18 kDa	Rabbit IgG
CNPase (D83E10) XP [®] Rabbit mAb	5664	20 µl	47 kDa	Rabbit IgG
PLP1 (E9V1N) Rabbit mAb	28702	20 µl	20-30 kDa	Rabbit IgG
MAG (D4G3) XP [®] Rabbit mAb	9043	20 µl	100 kDa	Rabbit IgG
MOG (E5K6T) XP [®] Rabbit mAb	96457	20 µl	46, 35, 28, 23 kDa	Rabbit IgG
NG2/CSPG4 (E3B3G) XP [®] Rabbit mAb	43916	20 µl	250, 450 kDa	Rabbit IgG
Sox10 (E6B6I) XP [®] Rabbit mAb	69661	20 µl	62 kDa	Rabbit IgG
Anti-rabbit IgG, HRP-linked Antibody	7074	100 µl		Goat

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

Description	The Oligodendrocyte Marker Antibody Sampler Kit provides an economical means of detecting proteins identified as oligodendrocyte markers by immunofluorescence and western blot. This kit includes enough primary antibodies to perform at least twenty IF 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. <i>Do not aliquot the antibodies.</i>
Background	Oligodendrocytes are the myelinating glial cells of the central nervous system (CNS) (1). Myelin basic protein (MBP) is an abundant CNS myelin membrane protein that plays an important role in nerve myelination. MBP helps to adhere the cytoplasmic leaflets of adjacent oligodendrocyte membranes to one another (2). CNPase (2', 3'-cyclic nucleotide 3'-phosphodiesterase) is an enzyme highly expressed in oligodendrocytes and accounts for roughly 4% of the total myelin protein in the CNS (3). CNPase binds to tubulin heterodimers and plays a role in tubulin polymerization, and oligodendrocyte process outgrowth (4). Myelin proteolipid protein (PLP1) corresponds to the majority of myelin proteins in the CNS, providing support to axons and modulating axonal growth (5). Myelin-associated glycoprotein (MAG) is localized in oligodendroglial membranes of myelin sheaths where it plays a role in interaction between axons and glia, and has been shown to promote axonal protective effects (6,7). Chondroitin sulfate proteoglycan 4 (CSP4, NG2) is a type I membrane glycoprotein expressed by oligodendroglial precursor cells (OPCs) that plays a role in cell attachment and migration (8). SRY-box 10 (Sox10) is a high-mobility group transcription factor expressed throughout oligodendrocyte development required for myelin gene expression (9,10). Myelin-oligodendrocyte glycoprotein (MOG) is a type I membrane bound glycoprotein of the immunoglobulin superfamily that is enriched in the outer lamella of the myelin sheath (11). Olig2 is a basic helix-loop-helix (bHLH) transcription factor necessary for oligodendrocyte and motor neuron differentiation and development in the CNS (12,13). Olig2 has been shown to be a useful marker for primary and mature oligodendrocytes and is universally expressed in diffuse gliomas (14,15).
Background References	 Bradl, M. and Lassmann, H. (2010) <i>Acta Neuropathol</i> 119, 37-53. Harauz, G. and Boggs, J.M. (2013) <i>J Neurochem</i> 125, 334-61. Kozlov, G. et al. (2003) <i>J Biol Chem</i> 278, 46021-8. Lee, J. et al. (2005) <i>J Cell Biol</i> 170, 661-73. Thomson, C.E. et al. <i>Dev Neurosci</i> 27, 27-36. Quarles, R.H. (2007) <i>J Neurochem</i> 100, 1431-48. Nguyen, T. et al. (2005) <i>J Anat</i> 207, 735-44. Küspert, M. et al. (2011) <i>Nucleic Acids Res</i> 39, 1280-93. Stolt, C.C. et al. (2002) <i>Genes Dev</i> 16, 165-70. Johns, T.G. and Bernard, C.C. (1999) <i>J Neurochem</i> 72, 1-9. Zhou, Q. et al. (2000) <i>Neuron</i> 25, 331-43.

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