

DESCRIPTION

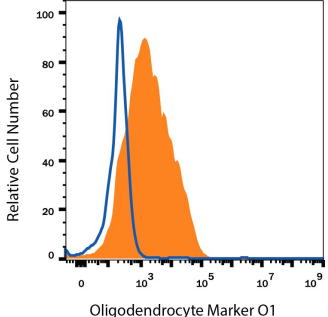
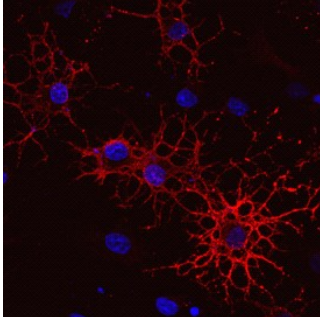
Species Reactivity	Human/Mouse/Rat/Chicken
Specificity	Detects human, mouse, rat and chicken Oligodendrocyte Marker O1.
Source	Monoclonal Mouse IgM Clone # O1
Purification	IgM-specific Affinity-purified from hybridoma culture supernatant
Immunogen	Bovine brain corpus callosum white matter
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied as a 0.2 µm filtered solution in PBS.

APPLICATIONS

Please Note: Optimal dilutions should be determined by each laboratory for each application. *General Protocols* are available in the *Technical Information* section on our website.

	Recommended Concentration	Sample
Flow Cytometry	0.25 µg/10 ⁶ cells	See Below
Immunocytochemistry	1-25 µg/mL	See Below
CyTOF-ready	Ready to be labeled using established conjugation methods. No BSA or other carrier proteins that could interfere with conjugation.	

DATA

<p>Flow Cytometry</p> 	<p>Detection of Oligodendrocyte Marker O1 in Rat Differentiated Cortical Stem Cells by Flow Cytometry. Rat differentiated cortical stem cells were stained with Mouse Anti-Human/Mouse/Rat/Chicken Oligodendrocyte Marker O1 Monoclonal Antibody (Catalog # MAB1327, filled histogram) or mouse IgM isotype control antibody (open histogram), followed by Allophycocyanin-conjugated Anti-Mouse IgM Secondary Antibody (Catalog # F0117). View our protocol for Staining Membrane-associated Proteins.</p>	<p>Immunocytochemistry</p> 	<p>Oligodendrocyte Marker O1 in Rat Cortical Stem Cells. Oligodendrocyte Marker O1 was detected in immersion fixed 7 day differentiated rat cortical stem cells using Mouse Anti-Human/Mouse/Rat/Chicken Oligodendrocyte Marker O1 Monoclonal Antibody (Catalog # MAB1327) at 1 µg/mL for 3 hours at room temperature. Cells were stained using the NorthernLights™ 557-conjugated Anti-Mouse IgM Secondary Antibody (red; Catalog # NL019) and counterstained with DAPI (blue). Specific staining was localized to oligodendrocytes. View our protocol for Fluorescent ICC Staining of Cells on Coverslips.</p>
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PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.5 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
Stability & Storage	<p>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</p> <ul style="list-style-type: none"> ● 12 months from date of receipt, -20 to -70 °C as supplied. ● 1 month, 2 to 8 °C under sterile conditions after reconstitution. ● 6 months, -20 to -70 °C under sterile conditions after reconstitution.

BACKGROUND

Oligodendrocytes are myelinating cells in the central nervous system (CNS) that form the myelin sheath of axons to support rapid nerve conduction. Oligodendrocyte Marker O1 recognizes a glycolipid antigen that is expressed on the surface of late oligodendrocyte progenitors. It has been commonly used in conjunction with Oligodendrocyte Marker O4 antibody to define immature oligodendrocyte (1-6). Progenitors that are O4 antigen-positive and O1 antigen-negative have been shown to differentiate into O1 antigen-positive oligodendrocytes *in vitro* (7).

References:

1. Schachner, M. *et al.* (1981) *Dev. Biol.* **83**:328.
2. Bansal, R. *et al.* (1989) *J. Neurosci. Res.* **24**:548.
3. Sontheimer, H. *et al.* (1989) *Neuron* **2**:1135.
4. Hardy, R.J. and V.L. Friedrich Jr. (1996) *Development* **122**:2059.
5. Reynolds, R. and R. Hardy (1997) *J. Neurosci. Res.* **47**:455.
6. Ono, K. *et al.* (1997) *J. Neurosci. Res.* **48**:212.
7. Cai, Z. *et al.* (2001) *Brain Res.* **898**:126.