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#90298

Mouse Microglia Marker IF Antibody Sampler Kit



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Products Included	Product #	Quantity	Mol. Wt.	Isotype/Source
Iba1/AIF-1 (E404W) XP® Rabbit mAb	17198	20 µl	17 kDa	Rabbit IgG
TMEM119 (E3E10) Rabbit mAb	90840	20 µl		Rabbit IgG
ASC/TMS1 (D2W8U) Rabbit mAb (Mouse Specific)	67824	20 µl	22 kDa	Rabbit IgG
HS1 (D5A9) XP® Rabbit mAb (Rodent Specific)	3892	20 µl	80 kDa	Rabbit IgG
CD11b/ITGAM (M1/70) Rat mAb	46512	20 µl		Rat IgG2b, kappa
CD45 (30-F11) Rat mAb	55307	20 µl		Rat IgG2b, kappa
F4/80 (D4C8V) XP® Rabbit mAb	30325	20 µl	65-250 kDa	Rabbit IgG
Ki-67 (D3B5) Rabbit mAb	9129	20 µl	359 kDa	Rabbit IgG
CD68 (E307V) Rabbit mAb	97778	20 µl	70-80, 130-140, 200 kDa	Rabbit IgG
Anti-rabbit IgG, HRP-linked Antibody	7074	100 µl		Goat

See www.cellsignal.com for individual component applications, species cross-reactivity, dilutions and additional application protocols.

Description: The Mouse Microglia Marker IF Antibody Sampler Kit provides an economical means of detecting proteins identified as microglia markers by immunofluorescence and/or western blot. This kit includes enough primary antibodies to perform at least twenty IF-F tests or two western blot experiments per primary antibody.

Background: Microglia are the resident macrophages of the central nervous system, responsible for immune response and maintenance of CNS homeostasis (1). Ionized calcium-binding adaptor molecule 1 (Iba1), also known as allograft inflammatory factor 1 (AIF-1), is uniquely expressed in cells of monocytic lineage and is, therefore, widely used as a marker for microglia/macrophages in the brain and other tissue (2,3). Transmembrane protein 119 (TMEM119) is a cell-surface protein of unknown function, expressed exclusively by the microglia subset of myeloid and neural cells (4). Iba1+ microglia with both ramified and amoeboid morphologies express TMEM119, while Iba1+ macrophages are TMEM119 negative (5). TMEM119 and other homeostatic genes have been shown to be downregulated in disease-associated microglia (DAM) (6). Cluster of differentiation molecule 11b (CD11b)/Integrin alpha M (ITGAM) is a transmembrane protein expressed by, and commonly used as a marker for, myeloid lineage cells, including neutrophils, monocytes, macrophages, and microglia (7). F4/80 (EMR1) is a heavily glycosylated G-protein-coupled receptor and is a well-established marker for mouse macrophages (8-10). Expression of F4/80 has been observed in microglia and subset populations of dendritic cells (11). The protein phosphatase (PTP) receptor CD45 is a type I transmembrane protein expressed in all nucleated hematopoietic cells (12). Studies suggest CD45 plays a role in regulation of microglial activation (13,14). CD68 (macrosialin) is a heavily glycosylated

transmembrane protein that is expressed by and commonly used as a marker for monocytes and macrophages (15,16). It localizes to the lysosomal membrane and is upregulated during microglial activation (17,18). Ki-67 is a nuclear nonhistone protein (19) universally expressed among proliferating cells and absent in quiescent cells (20). Previous work identifying markers of specific brain cell types using RNA-seq has shown HS1 and ASC/TMS1 to be useful and specific tools to study microglia (21). HS1 is a protein kinase substrate that is expressed only in tissues and cells of hematopoietic origin (22) and ASC/TMS1 has been found to be a critical component of inflammatory signaling where it associates with and activates caspase-1 in response to pro-inflammatory signals (23).

Specificity/Sensitivity: Each antibody in the Mouse Microglia Marker IF Antibody Sampler Kit detects endogenous levels of its target protein. HS1 has a calculated size of 54 kDa, but has an apparent molecular weight of 80 kDa on SDS-PAGE gels. CD45 (30-F11) Rat mAb and CD11b/ITGAM (M1/70) Rat mAb detect an epitope within the extracellular domain. CD68 (E307V) Rabbit mAb has shown staining of uncertain specificity in mouse endometrial epithelium by immunohistochemistry.

Source/Purification: Monoclonal antibodies are produced by immunizing animals with synthetic peptides corresponding to residues surrounding Ala139 of human Iba1/AIF-1 protein, Leu310 of mouse HS1 protein, Gln260 of mouse F4/80 protein, the amino terminus of human TMEM119 and Ki-67 proteins, and recombinant mouse ASC/TMS1 protein and mouse CD68 that reacts with an epitope surrounding Gly113. CD11b/ITGAM (M1/70) Rat mAb and CD45 (30-F11) Rat mAb were purified from tissue culture supernatant via affinity chromatography.

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 antibodies.

Background References:

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