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#36422

Microglia LPS-Related Module Antibody Sampler Kit

Cell Signaling TECHNOLOGY®

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Products Included	Product #	Quantity	Mol. Wt.	Isotype/Source
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
Rab11FIP1 (D9D8P) Rabbit mAb	12849	20 µl	85 kDa	Rabbit IgG
Integrin α4 (D2E1) XP® Rabbit mAb	8440	20 µl	70, 140, 150 kDa	Rabbit IgG
IQGAP1 (D8K4X) XP® Rabbit mAb	20648	20 µl	195 kDa	Rabbit IgG
Cleaved Lamin A (Small Subunit) (30H5) Mouse mAb	2036	20 µl	28 kDa	Mouse IgG1
IKKε (D61F9) XP® Rabbit mAb	3416	20 µl	80 kDa	Rabbit IgG
Lamin A/C (4C11) Mouse mAb	4777	20 µl	74 (Lamin A), 63 (Lamin C) kDa	Mouse IgG2a
P-Ezrin (T567)/Radixin (T564)/Moesin (T558) (48G2) Rabbit mAb	3726	20 µl	75 (Moesin), 80 (Ezrin, Radixin) 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 Microglia LPS-Related Module Antibody Sampler Kit provides an economical means of detecting proteins identified as markers of LPS-Related microglial activity by western blot and/or immunofluorescence.

Background: Distinct microglial activation states have been identified using RNA-seq data from a vast array of neurological disease and aging models. These activation states have been categorized into modules corresponding to proliferation, neurodegeneration, interferon-relation, LPS-relation, and many others (1). 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 (2). HS1 is a protein kinase substrate that is expressed only in tissues and cells of hematopoietic origin (3) 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 (4).

The Rab11-family interacting proteins (Rab11FIPs) facilitate Rab11-dependent vesicle recycling through interaction with the conserved carboxyl terminal Rab11 binding domain (5,6). Rab11FIP1 has been shown to play a role in endocytic sorting and trafficking of EGFR and integrin subunits (6). Integrins are α/β heterodimeric cell surface receptors that mediate cell adhesion and migration and regulate cell growth and survival. Two significant α4 integrins, α4β1 and α4β7, interact with VCAM-1, fibronectin, and MAdCAM-1 at cell adhesions and have been shown to play an important role in cell trafficking during inflammatory processes (7-9). Lamins are nuclear membrane structural components important for maintaining normal cell functions. Lamin A/C is cleaved by caspase-6 and serves as a marker for caspase-6 activation. The cleavage of lamins results in nuclear dysregulation and cell death (10,11). The ezrin, radixin, and moesin (ERM) proteins function as linkers between the plasma membrane and the actin cytoskeleton and are involved in cell adhesion, membrane ruffling, and microvilli formation (12). ERM proteins undergo intra or intermolecular interaction between their amino- and carboxy-terminal domains, existing as inactive cytosolic monomers or dimers (13). Phosphorylation at a carboxy-terminal threonine residue (Thr567 of ezrin, Thr564 of radixin, Thr558 of moesin) disrupts the amino- and carboxy-terminal association and may play a key role in regulating ERM protein conformation and function (14,15). IQGAPs are scaffolding proteins involved in mediating cytoskeletal function that contain multiple protein interaction domains (16). IQGAP1 is ubiquitously expressed and has been found to interact with APC (17) and the CLIP170 complex in response to small GTPases, promoting cell polarization and migration (18). IKKε is an IKK-related kinase that functions as part of the signal-stimulated noncanonical pathway of NF-kB activation (19). IKKε plays a role in the immune response and also impacts cell proliferation and transformation (20).

Specificity/Sensitivity: Each antibody in the Microglia LPS-Related Module Antibody Sampler Kit detects endogenous levels of its target protein. HS1 (D5A9) XP® Rabbit mAb (Rodent Specific) does not recognize human HS1 protein. HS1 has a calculated size of 54 kDa, but has an apparent molecular weight of 80 kDa on SDS-PAGE gels. Phospho-Ezrin (Thr567)/Radixin (Thr564)/Moesin (Thr558) (48G2) Rabbit mAb recognizes endogenous levels of Ezrin, Radixin, and Moesin only when phosphorylated at Thr567, Thr564, and Thr558 respectively. Lamin A/C (4C11) Mouse mAb detects endogenous levels of lamin A and lamin C proteins and also reacts with the larger fragments of lamin A (50 kDa) and lamin C (41 kDa) produced by caspase cleavage during apoptosis. Cleaved Lamin A (Small Subunit) (30H5) Mouse mAb detects endogenous levels of the small fragment of lamin A (and lamin C) resulting from cleavage at Asp230 and does not cross-react with full length lamin A or C.

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 References:

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Source/Purification: Monoclonal antibodies are produced by immunizing animals with synthetic peptides corresponding to residues surrounding Leu310 of mouse HS1, Leu248 of human Rab11FIP1, Ser1027 of human integrin α4, Thr567 of human ezrin, Asp230 of human lamin A, the amino terminus of human IQGAP1, the carboxy terminus of mouse IKKε, and a recombinant fragment of human lamin A and mouse ASC/TMS1 protein.

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Applications: W—Western **IP**—Immunoprecipitation **IHC**—Immunohistochemistry **ChIP**—Chromatin Immunoprecipitation **IF**—Immunofluorescence **F**—Flow cytometry **E-P**—ELISA-Peptide **Species Cross-Reactivity: H**—human **M**—mouse **R**—rat **Hm**—hamster **Mk**—monkey **Mi**—mink **C**—chicken **Dm**—D. melanogaster **X**—Xenopus **Z**—zebrafish **B**—bovine **Dg**—dog **Pg**—pig **Sc**—S. cerevisiae **Ce**—C. elegans **Hr**—Horse **All**—all species expected Species enclosed in parentheses are predicted to react based on 100% homology.