

Microglia LPS-Related Module Antibody Sampler Kit



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1 Kit (9 x 20 microliters)

For Research Use Only. Not for Use in Diagnostic Procedures.

Product Includes	Product #	Quantity	Mol. Wt	Isotype/Source
ASC/TMS1 (D2W8U) Rabbit mAb	67824	20 µl	22 kDa	Rabbit IgG
HS1 (D5A9) XP® Rabbit mAb	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
Phospho-Ezrin (Thr567)/Radixin (Thr564)/Moesin (Thr558) (48G2) Rabbit mAb	3726	20 µl	75 Moesin. 80 Ezrin, Radixin. 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 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.

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

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 (Rab11-FIPs) 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-κB activation (19). IKKε plays a role in the

immune response and also impacts cell proliferation and transformation (20).

Background References

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