Revision 1

Store at -20C

#83163

Microglia Cross Module Antibody Sampler Kit

1 Kit (9 x 20 microliters)

Cell Signaling TECHNOLOGY®

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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
Ki-67 (D3B5) Rabbit mAb	9129	20 µl		Rabbit IgG
Axl (C89E7) Rabbit mAb	8661	20 µl	138 kDa	Rabbit IgG
Hydroxy-HIF-1α (Pro564) (D43B5) XP® Rabbit mAb	3434	20 µl	120 kDa	Rabbit IgG
Stat2 (D9J7L) Rabbit mAb	72604	20 µl	97, 113 kDa	Rabbit IgG
Phospho-Stat2 (Tyr690) (D3P2P) Rabbit mAb	88410	20 µl	97, 113 kDa	Rabbit IgG
Lamin A/C (4C11) Mouse mAb	4777	20 µl	74 (Lamin A), 63 (Lamin C) kDa	Mouse IgG2a
IQGAP1 (D8K4X) XP® Rabbit mAb	20648	20 µl	195 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 Cross Module Antibody Sampler Kit provides an economical means of detecting proteins identified as markers of microglial activity corresponding to proliferation, neurodegeneration, interferon and LPS-relation 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).
Ki-67 is a nuclear nonhistone protein (5) universally expressed among proliferating cells and absent in quiescent cells (6). Axl is a receptor tyrosine kinase that binds Gas6, stimulating regulatory effects on microglial phagocytic response to inflammatory stimuli (7). Hypoxia inducible factor-1 (HIF-1α) is a transcription factor responsible for adaptation to low oxygen environments whose downstream effects have been shown in a number of neurodegenerative diseases. Under normoxic conditions, HIF-1α is proline hydroxylated leading to ubiquitin mediated degradation (8). Stat2 is critical to the transcriptional responses induced by type I interferons, IFN-alpha/beta (9,10). In response to IFN-alpha/beta, Stat2 is activated by phosphorylation at site Tyr690 through associations with receptor-bound Jak kinases (11). 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 (12,13). IQGAP1 is ubiquitously expressed and has been found to interact with APC (14) and the CLIP170 complex in response to small GTPases, promoting cell polarization and migration (15).

Background References

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Limited Uses