Store at -20°C

Myddosome Complex Antibody Sampler Kit

#39433

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
MyD88 (D80F5) Rabbit mAb	4283	20 µl	33 kDa	Rabbit IgG
IRAK1 (D51G7) Rabbit mAb	4504	20 µl	78-105 kDa	Rabbit IgG
IRAK2 Antibody	4367	20 µl	62 kDa	Rabbit
IRAK4 Antibody	4363	20 µl	55 kDa	Rabbit
Phospho-IRAK4 (Thr345/Ser346) (D6D7) Rabbit mAb	11927	20 µl	55 kDa	Rabbit IgG
TRAF6 (E2K9D) Rabbit mAb	67591	20 µl	60 kDa	Rabbit IgG
TBK1/NAK (E8I3G) Rabbit mAb	38066	20 µl	84 kDa	Rabbit IgG
Phospho-TBK1/NAK (Ser172) (D52C2) XP® Rabbit mAb	5483	20 µl	84 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 Myddosome Complex Antibody Sampler Kit provides an economical means of detecting the components of the myddosome complex using phospho-specific and control antibodies. The kit includes enough antibodies to perform two western blot experiments with each primary antibody.

Specificity/Sensitivity: Each antibody in the Myddosome Complex Antibody Sampler Kit detects endogenous levels of its target human protein. Phospho-IRAK4 (Thr345/Ser346) (D6D7) Rabbit mAb recognizes endogenous levels of IRAK4 protein when phosphorylated at Thr345 and Ser346. This antibody shows slight reactivity with IRAK4 when singly phosphorylated at Ser346 and does not cross-react with IRAK4 singly phosphorylated at Thr345. Phospho-TBK1/NAK (Ser172) (D52C2) XP® Rabbit mAb detects endogenous levels of TBK1 only when phosphorylated at Ser172 and may cross-react with phospho-IKKε.

Background: Toll-like receptors (TLRs) are a large family of so-called pattern recognition receptors (PRRs) that detect pathogen associated molecular patterns (PAMPs) and danger associated molecular patterns (DAMPs) (1,2). Upon activation, TLRs initiate two main signaling pathways through their C-terminal cytoplasmic Toll/Il-1 receptor (TIR) domain that couples with TIR domain-containing adaptors MyD88 and TRIF. The MyD88-dependent pathway is initiated by the formation of a large oligomeric protein complex termed myddosome. Myddosome is one of so-called supramolecular organizing centers (SMOCs), a signaling organelle that is common for PRRs in the innate immune system. Myddosome formation promotes IRAK4 activation, which in turn activates IRAK1 and later, IRAK2. TRAF6 is then recruited and activated through the binding sites within IRAKs. Activated TRAF6 is released to the cytosol and triggers the IKK complex to activate the NF-κB pathway to mediate the expression of pro-inflammatory cytokines and chemokines (3-7). Recently, it was also found that TBK1 is recruited to the myddosome complex and activated to induce aerobic glycolysis (8).

Source/Purification: Monoclonal antibodies are produced by immunizing animals with recombinant protein specific to a central region of mouse TRAF6 proteins, with synthetic phosphopeptides corresponding to residues surrounding Thr345/Ser346 and Ser172 of human IRAK4 and TBK1/NAK1 proteins, respectively, and with synthetic peptides corresponding to residues surrounding Cys233 of human MyD88 protein and residues near the carboxyl termini of mouse IRAK1 and human TBK1/NAK protein. Polyclonal antibodies are produced by immunizing animals with synthetic peptides corresponding to residues at the carboxy terminus of mouse IRAK2 and residues surrounding Lys41 of human IRAK4. Antibodies were purified by protein A and peptide 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.*

Please visit www.cellsignal.com for validation data and a complete listing of recommended companion products.

Background References:

(1) Behzadi, P. et al. (2021) *J Immunol Res* 2021, 9914854.
(2) Aluri, J. et al. (2021) *Cells* 10, 1374. doi: 10.3390/cells10061374.
(3) De Nardo, D. (2015) *Cytokine* 74, 181-9.
(4) Latty, S.L. et al. (2018) *Elife* 7:e31377. doi: 10.7554/eLife.31377.
(5) De Nardo, D. et al. (2018) *J Biol Chem* 293, 15195-15207.
(6) Balka, K.R. and De Nardo, D. (2019) *J Leukoc Biol* 105, 339-351.
(7) Gold, J.J. et al. (1988) *Biosystems* 21, 403-15.
(8) Tan, Y. and Kagan, J.C. (2019) *Cell* 177, 384-398.e11.

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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.