Revision 1

Store at -20C

#8348

Rig-I Pathway 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
MDA-5 (D74E4) Rabbit mAb	5321	20 µl	135 kDa	Rabbit IgG
Rig-I (D14G6) Rabbit mAb	3743	20 µl	102 kDa	Rabbit IgG
MAVS Antibody	3993	20 µl	75, 52 kDa	Rabbit
IRF-3 (D6I4C) XP® Rabbit mAb	11904	20 µl	50-55 kDa	Rabbit IgG
TBK1/NAK (D1B4) Rabbit mAb	3504	20 µl	84 kDa	Rabbit IgG
Phospho-TBK1/NAK (Ser172) (D52C2) XP® Rabbit mAb	5483	20 µl	84 kDa	Rabbit IgG
Phospho-IRF-3 (Ser396) (4D4G) Rabbit mAb	4947	20 µl	45-55 kDa	Rabbit IgG
Phospho-IKKε (Ser172) (D1B7) Rabbit mAb	8766	20 µl	80 kDa	Rabbit IgG
IKKε (D20G4) Rabbit mAb	2905	20 µl	80 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 Rig-I Pathway Antibody Sampler Kit provides an economical means to evaluate the activation state and total protein levels of multiple members of the Rig-I pathway including Rig-I, MDA-5, MAVS, IRF-3, TBK1/NAK, and IKKε. The kit includes enough primary antibody to perform two western blot experiments per antibody.

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

Antiviral innate immunity depends on the combination of parallel pathways triggered by virus detecting proteins in the Toll-like receptor (TLR) family and RNA helicases, such as Rig-I (retinoic acid-inducible gene I) and MDA-5 (melanoma differentiation-associated antigen 5), which promote the transcription of type I interferons (IFN) and antiviral enzymes (1-3). TLRs and helicase proteins contain sites that recognize the molecular patterns of different virus types, including DNA, single-stranded RNA (ssRNA), double-stranded RNA (dsRNA), and glycoproteins. These antiviral proteins are found in different cell compartments; TLRs (i.e. TLR3, TLR7, TLR8, and TLR9) are expressed on endosomal membranes and helicases are localized to the cytoplasm. Rig-I expression is induced by retinoic acid, LPS, IFN, and viral infection (4,5). Both Rig-I and MDA-5 share a DExD/H-box helicase domain that detects viral dsRNA and two amino-terminal caspase recruitment domains (CARD) that are required for triggering downstream signaling (4-7). Rig-I binds both dsRNA and viral ssRNA that contains a 5'-triphosphate end not seen in host RNA (8,9). Though structurally related, Rig-I and MDA-5 detect a distinct set of viruses (10,11). The CARD domain of the helicases, which is sufficient to generate signaling and IFN production, is recruited to the CARD domain of the MAVS/VISA/Cardif/IPS-1 mitochondrial protein, which triggers activation of NF-κB, TBK1/IKKε, and IRF-3/IRF-7 (12-15).

Background References

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