Revision 3

Store at -20C

#50907

Phospho-STING (Ser366) (E9A9K) Rabbit mAb

Cell Signaling TECHNOLOGY®

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Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W, IP, IF-IC, FC-FP	H	Endogenous	40	Rabbit IgG	#Q86WV6	340061

Product Usage Information

Application	Dilution
Western Blotting	1:1000
Immunoprecipitation	1:50
Immunofluorescence (Immunocytochemistry)	1:1600 - 1:3200
Flow Cytometry (Fixed/Permeabilized)	1:800 - 1:1600

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.*

For a carrier free (BSA and azide free) version of this product see product #72650.

Specificity/Sensitivity

Phospho-STING (Ser366) (E9A9K) Rabbit mAb recognizes endogenous levels of STING protein only when phosphorylated at Ser366.

Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Ser366 of human STING protein.

Background

Stimulator of interferon genes (STING, TMEM173, MITA) is a transmembrane adaptor protein that is a critical component of the cellular innate immune response to pathogenic cytoplasmic DNA (1,2). STING is a ubiquitously expressed protein found predominantly in the ER (1). The enzyme cGAMP synthase (cGAS) produces the second messenger cyclic-GMP-AMP (cGAMP) in response to cytoplasmic DNA (3,4). cGAMP binds and activates STING (3,4). In addition, detection of cytoplasmic DNA by nucleic acid sensors, including DDX41 or IFI16, results in STING activation (5,6). Following activation, STING translocates with TBK1 to perinuclear endosomes (7). The TBK1 kinase phosphorylates and activates interferon regulatory factors (IRFs) and NF-κB, which leads to the induction of type I interferon and other immune response genes (1,2,7).

Following binding of cyclic dinucleotides, STING is phosphorylated by TBK1 at Ser366 (Ser365 in mouse), leading to IRF-3 activation and type I interferon upregulation (8).

Background References

1. Ishikawa, H. and Barber, G.N. (2008) *Nature* 455, 674-8.
2. Zhong, B. et al. (2008) *Immunity* 29, 538-50.
3. Sun, L. et al. (2013) *Science* 339, 786-91.
4. Wu, J. et al. (2013) *Science* 339, 826-30.
5. Zhang, Z. et al. (2011) *Nat Immunol* 12, 959-65.
6. Unterholzner, L. et al. (2010) *Nat Immunol* 11, 997-1004.
7. Ishikawa, H. et al. (2009) *Nature* 461, 788-92.
8. Liu, S. et al. (2015) *Science* 347, aaa2630.

Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

Western Blot Buffer

IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v BSA, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

Applications Key

W: Western Blotting **IP:** Immunoprecipitation **IF-IC:** Immunofluorescence (Immunocytochemistry) **FC-FP:** Flow Cytometry (Fixed/Permeabilized)

Cross-Reactivity Key

H: Human

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