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phospho-DDX58 (Thr170) Rabbit pAb

Catalog # AP98524

Product Information

Application	WB, IHC-P, IHC-F, IF
Primary Accession	O95786
Other Accession	O95786
Reactivity	Human, Mouse
Predicted	Pig, Rabbit, Dog, Horse, Sheep
Host	Rabbit
Clonality	Polyclonal
Calculated MW	106600
Physical State	Liquid
Immunogen	KLH conjugated Synthesised phosphopeptide derived from human DDX58 around the phosphorylation site of Thr170
Epitope Specificity	PK(p-T)LK
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
SIMILARITY	Belongs to the helicase family.Contains 2 CARD domains.Contains 1 helicase ATP-binding domain.Contains 1 helicase C-terminal domain.
SUBUNIT	Monomer; maintained as a monomer in an autoinhibited state. Upon viral dsRNA binding and conformation shift, homomultimerizes and interacts with MAVS. Interacts with DHX58/LGP2, IKBKE, TBK1 and TMEM173/STING. Interacts (via CARD domain) with TRIM25 (via SPRY domain). Interacts with RNF135. Interacts with CYLD. Interacts with NLRC5; blocks the interaction of MAVS to DDX58. Interacts with SRC.
Post-translational modifications	Phosphorylated in resting cells and dephosphorylated in RNA virus-infected cells. Phosphorylation at Thr-770, Ser-854 and Ser-855 results in inhibition of its activity while dephosphorylation at these sites results in its activation. Isgylated. Conjugated to ubiquitin-like protein ISG15 upon IFN-beta stimulation. Ubiquitinated. Undergoes 'Lys-48'- and 'Lys-63'-linked ubiquitination. Lys-172 is the critical site for TRIM25-mediated ubiquitination, for MAVS/IPS1 binding and to induce anti-viral signal transduction. Lys-154, Lys-164 and Lys-172 are critical sites for RNF135-mediated ubiquitination. Deubiquitinated by CYLD, a protease that selectively cleaves 'Lys-63'-linked ubiquitin chains. Also probably deubiquitinated by USP17L2/USP17 that cleaves 'Lys-48'-and 'Lys-63'-linked ubiquitin chains and positively regulates the receptor.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	The innate immune system detects viral infection by recognizing various viral components and triggers antiviral responses. Like the toll-like receptor 3 (TLR3), the cytoplasmic helicase retinoic acid inducible gene protein 1 (RIG1/DDX58) recognizes double-stranded (ds) RNA, a molecular pattern associated with viral infection. Unlike TLR3 however, RIG1/DDX58 activates the kinases TBK1 and IKKe through the adaptor protein IPS1. These kinases then phosphorylate the transcription factors IRF3 and IRF7 which are essential for the expression of type-I interferons. RIG1/DDX58 is required for

the production of interferons in response to RNA viruses including paramyxoviruses, influenza virus, and Japanese encephalitis virus.

Additional Information

Gene ID	23586
Other Names	DDX58 (phospho-T170); p-DDX58; phospho-DDX58; DDX58 (phospho-Thr170); DDX58; RIG-I; RIG1; RLR-1; SGMRT2; 6430573D20Rik; C330021E21; Rigi; RIGI_HUMAN; ATP-dependent RNA helicase DDX58; DEAD box protein 58; RIG-I-like receptor 1 (RLR-1); RNA sensor RIG-I; Retinoic acid-inducible gene 1 protein (RIG-1); Retinoic acid-inducible gene I protein (RIG-I); RIGI_MOUSE;
Dilution	WB=1:500-2000,IHC-P=1:100-500,IHC-F=1:100-500,IF=1:100-500
Storage	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. When reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.

Protein Information

Name	RIGI (HGNC:19102)
Synonyms	DDX58
Function	