STAT1 (Phospho Tyr701) Rabbit pAb

CatalogNo: YP0249

Key Features

Host Species
- Rabbit

Reactivity
- Human,Mouse,Rat,Monkey

Applications
- WB,IHC,IF,IP,ELISA

MW
- 87kD (Observed)

Isotype
- IgG

Storage

Storage*	-15°C to -25°C/1 year (Do not lower than -25°C)
Formulation	Liquid in PBS containing 50% glycerol, 0.5% BSA and 0.02% sodium azide.

Recommended Dilution Ratios

IF 1:50-200
WB 1:500-1:2000
IHC 1:100-1:300
IP 2-5 ug/mg lysate
ELISA 1:10000
Not yet tested in other applications

Basic Information

Clonality	Polyclonal

Immunogen Information

Immunogen	The antiserum was produced against synthesized peptide derived from human STAT1 around the phosphorylation site of Tyr701. AA range:668-717

Specificity	Phospho-Stat1 (Y701) Polyclonal Antibody detects endogenous levels of Stat1 protein only when phosphorylated at Y701.The name of modified sites may be influenced by many factors, such as species (the modified site was not originally found in human samples) and the change of protein sequence (the previous protein sequence is incomplete, and the protein sequence may be prolonged with the development of protein sequencing technology). When naming, we will use the "numbers" in historical reference to keep the sites consistent with the reports. The antibody binds to the following modification sequence (lowercase letters are modification sites):TGyIK

Target Information

Gene name	STAT1
Protein Name	Signal transducer and activator of transcription 1-alpha/beta

Organism	Gene ID	UniProt ID
Human	6772;	P42224;
Mouse		P42225;

Cellular Localization	Cytoplasm . Nucleus . Translocated into the nucleus upon tyrosine phosphorylation and dimerization , in response to IFN-gamma and signaling by activated FGFR1 , FGFR2 , FGFR3 or FGFR4 (PubMed:15322115) . Monomethylation at Lys-525 is required for phosphorylation at Tyr-701 and translocation into the nucleus (PubMed:28753426) . Translocates into the nucleus in response to interferon-beta stimulation (PubMed:26479788) . .
Tissue specificity	B-cell ,Brain ,Retina ,Testis ,

Function	Disease:Defects in STAT1 are a cause of mendelian susceptibility to mycobacterial disease (MSMD) [MIM:209950]; also known as familial disseminated atypical mycobacterial infection. This rare condition confers predisposition to illness caused by moderately virulent mycobacterial species , such as Bacillus Calmette-Guerin (BCG) vaccine and environmental non-tuberculous mycobacteria , and by the more virulent Mycobacterium tuberculosis. Other microorganisms rarely cause severe clinical disease in individuals with susceptibility to mycobacterial infections , with the exception of Salmonella which infects less than 50% of these individuals. The pathogenic mechanism underlying MSMD is the impairment of interferon-gamma mediated immunity whose severity determines the clinical outcome. Some patients die of overwhelming mycobacterial disease with lepromatous-like lesions in early childhood , whereas others develop , later in life , disseminated but curable infections with tuberculoid granulomas. MSMD is a genetically heterogeneous disease with autosomal recessive , autosomal dominant or X-linked inheritance. ,Disease:Defects in STAT1 are the cause of STAT1 deficiency [MIM:600555]. Patients generally suffer from mycobacterial or viral diseases. In the case of complete deficiency , patients can die of viral disease. ,Function:Signal transducer and activator of transcription that mediates signaling by interferons (IFNs) . Following type I IFN (IFN-alpha and IFN-beta) binding to cell surface receptors , Jak kinases (TYK2 and JAK1) are activated , leading to tyrosine phosphorylation of STAT1 and STAT2. The phosphorylated STATs dimerize , associate with ISGF3G/IRF-9 to form a complex termed ISGF3 transcription factor , that enters the nucleus. ISGF3 binds to the IFN stimulated response element (ISRE) to activate the transcription of interferon stimulated genes , which drive the cell in an antiviral state. In response to type II IFN (IFN-gamma) , STAT1 is tyrosine- and serine-phosphorylated. It then forms a homodimer termed IFN-gamma-activated factor (GAF) , migrates into the nucleus and binds to the IFN gamma activated sequence (GAS) to drive the expression of the target genes , inducing a cellular antiviral state. ,online information:STAT1 entry ,online information:STAT1 mutation db ,PTM:Phosphorylated on tyrosine and serine residues in response to IFN-alpha , IFN-gamma , PDGF and EGF. Phosphorylation on Tyr-701 (lacking in beta form) by JAK promotes dimerization and subsequent translocation to the nucleus. Phosphorylation on Ser-727 by several kinases including MAPK14 , ERK1/2 and CAMKII on IFN-gamma stimulation , regulates STAT1 transcriptional activity. Phosphorylation on Ser-727 promotes sumoylation though increasing interaction with PIAS. Phosphorylation on Ser-727 by PKCdelta induces apoptosis in response to DNA-damaging agents. ,PTM:Sumoylated by SUMO1 , SUMO2 and SUMO3. Sumoylation is enhanced by IFN-gamma-induced phosphorylation on Ser-727 , and by interaction with PIAS proteins. Enhances the transactivation activity. ,similarity:Belongs to the transcription factor STAT family. ,similarity:Contains 1 SH2 domain. ,subcellular location:Translocated into the nucleus in response to IFN-gamma-induced tyrosine phosphorylation and dimerization. ,subunit:Isoform alpha homodimerizes upon IFN-gamma induced phosphorylation. Heterodimer with STAT2 upon IFN-alpha/beta induced phosphorylation. Interacts with NMI. Interacts with Sendai virus C' , C , Y1 and Y2 proteins , Nipah virus P , V and W proteins , and rabies virus phosphoprotein preventing activation of ISRE and GAS promoter (By similarity) . Interacts with HCV core protein; the interaction results in STAT1 degradation. Interacts with PIAS1; the interaction requires phosphorylation on Ser-727 and inhibits STAT1 activation. ,

Validation Data

Contact information

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Please scan the QR code to access additional product information:
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