

Phospho-Stat3 Antibody

Rabbit Polyclonal Antibody Catalog # ABV10345

Specification

Phospho-Stat3 Antibody - Product Information

Application WB, IHC, IP **Primary Accession** P42227 AAA19452.1 Other Accession Human, Mouse Reactivity Host **Rabbit** Clonality **Polyclonal** Isotype Rabbit IgG Calculated MW 88054

Phospho-Stat3 Antibody - Additional Information

Gene ID 20848

Application & Usage Western blotting (1-4 μg/ml),

immunoprecipitation (20 mg/ml), and Immunohistochemistry (20 μ g/ml). However, the optimal concentrations should be determined individually. The

antibody recognizes ~86 kDa

phosphorylated Stat3 (Ser727) of human and mouse origins. Reactivity to other

species has not been tested.

Other Names

MADH3, JV15-2, DKFZp686J10186, hSMAD3, hMAD-3, HSPC193, MGC60396, HsT17436, Mad3, DKFZP586N0721

Target/Specificity Phospho-STAT3

Antibody Form Liquid

Appearance

Colorless liquid

Formulation

 $100 \mu g$ (0.5 mg/ml) affinity purified rabbit polyclonal antibody in phosphate-buffered saline (PBS) containing 50% glycerol, 1% BSA, and 0.02% thimerosal.

Handling

The antibody solution should be gently mixed before use.

Reconstitution & Storage

-20 °C



Background Descriptions

Precautions

Phospho-Stat3 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Phospho-Stat3 Antibody - Protein Information

Name Stat3 {ECO:0000312|MGI:MGI:103038}

Function

Signal transducer and transcription activator that mediates cellular responses to interleukins, KITLG/SCF, LEP and other growth factors (By similarity). Once activated, recruits coactivators, such as NCOA1 or MED1, to the promoter region of the target gene (By similarity). May mediate cellular responses to activated FGFR1, FGFR2, FGFR3 and FGFR4 (By similarity). Upon activation of IL6ST/gp130 signaling by interleukin-6 (IL6), binds to the IL6-responsive elements identified in the promoters of various acute-phase protein genes (By similarity). Activated by IL31 through IL31RA (By similarity). Acts as a regulator of inflammatory response by regulating differentiation of naive CD4(+) T-cells into T-helper Th17 or regulatory T-cells (Treg): deacetylation and oxidation of lysine residues by LOXL3, leads to disrupt STAT3 dimerization and inhibit its transcription activity (By similarity). Involved in cell cycle regulation by inducing the expression of key genes for the progression from G1 to S phase, such as CCND1 (By similarity). Mediates the effects of LEP on melanocortin production, body energy homeostasis and lactation (PubMed:12594516). May play an apoptotic role by transctivating BIRC5 expression under LEP activation (PubMed: 16825198). Cytoplasmic STAT3 represses macroautophagy by inhibiting EIF2AK2/PKR activity (By similarity). Plays a crucial role in basal beta cell functions, such as regulation of insulin secretion (PubMed:20215569). Plays an important role in host defense in methicillin-resistant S.aureus lung infection by regulating the expression of the antimicrobial lectin REG3G (PubMed:23401489).

Cellular Location

Cytoplasm {ECO:0000250|UniProtKB:P40763}. Nucleus {ECO:0000250|UniProtKB:P40763}. Note=Predominantly present in the cytoplasm without stimuli. Upon leukemia inhibitory factor (LIF) stimulation, accumulates in the nucleus. The complex composed of BART and ARL2 plays an important role in the nuclear translocation and retention of STAT3 (By similarity). Shuttles between the nucleus and the cytoplasm. Translocated into the nucleus upon tyrosine phosphorylation and dimerization, in response to signaling by activated FGFR1, FGFR2, FGFR3 or FGFR4. Constitutive nuclear presence is independent of tyrosine phosphorylation.

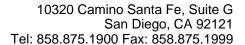
Tissue Location

STAT3A is seen in the liver, spleen, and kidney. STAT3B is also detected in the liver, although in a much less abundant manner. Expressed in the lung and an increase in expression levels seen during methicillin-resistant S.aureus infection

Phospho-Stat3 Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

Western Blot





• Blocking Peptides

- Dot Blot
- <u>Immunohistochemistry</u>
- Immunofluorescence
- <u>Immunoprecipitation</u>
- Flow Cytomety
- Cell Culture

Phospho-Stat3 Antibody - Images

Phospho-Stat3 Antibody - Background

Membrane receptor signaling by various ligands induces activation of Jak kinases which then leads to tyrosine phosphorylation of the various Stat transcription factors. Stat1 and Stat2 are induced by IFN- α and form a heterodimer which is part of the ISGF3 transcription factor complex. Altho μ gh early reports indicate Stat3 activation by EGF and IL-6, it has been shown that Stat3 β appears to be activated by both while Stat3 α is activated by EGF, but not by IL-6. Highest expression of Stat4 is seen in testis and myeloid cells. IL-12 has been identified as an activator of Stat4. Stat5 is activated by prolactin and by IL-3. Stat6 is involved in IL-4 activated signaling pathways.