

Product datasheet

Anti-STAT3 antibody ab31370

★★★★★ 3 Abreviews 7 References 5 Images

Overview

Product name	Anti-STAT3 antibody
Description	Rabbit polyclonal to STAT3
Host species	Rabbit
Specificity	ab31370 detects endogenous levels of STAT3 protein around Tyrosine 705.
Tested applications	Suitable for: WB, IHC-P
Species reactivity	Reacts with: Mouse, Rat, Human
Immunogen	Synthetic peptide corresponding to Human STAT3. Immunogen range is from aa 672-721. Synthetic non-phosphopeptide derived from human STAT3 around the phosphorylation site of Tyrosine 705. Database link: P40763

Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Upon delivery aliquot and store at -20°C. Avoid freeze / thaw cycles.
Storage buffer	pH: 7.40 Preservative: 0.02% Sodium azide Constituents: PBS, 50% Glycerol, 0.87% Sodium chloride
	Without Mg ²⁺ and Ca ²⁺
Purity	Immunogen affinity purified
Purification notes	The antibody was affinity-purified from rabbit antiserum by affinity-chromatography using epitope-specific immunogen.
Clonality	Polyclonal
Isotype	IgG

Applications

Our [Abpromise guarantee](#) covers the use of **ab31370** in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Application	Abreviews	Notes
WB	★★★★★	1/500 - 1/1000. Detects a band of approximately 95 kDa (predicted molecular weight: 88 kDa).
IHC-P		1/50 - 1/100.

Target

Function

Signal transducer and transcription activator that mediates cellular responses to interleukins, KITLG/SCF, LEP and other growth factors. Once activated, recruits coactivators, such as NCOA1 or MED1, to the promoter region of the target gene (PubMed:17344214). May mediate cellular responses to activated FGFR1, FGFR2, FGFR3 and FGFR4. Binds to the interleukin-6 (IL-6)-responsive elements identified in the promoters of various acute-phase protein genes. Activated by IL31 through IL31RA. Involved in cell cycle regulation by inducing the expression of key genes for the progression from G1 to S phase, such as CCND1 (PubMed:17344214). Mediates the effects of LEP on melanocortin production, body energy homeostasis and lactation (By similarity). May play an apoptotic role by transactivating BIRC5 expression under LEP activation (PubMed:18242580). Cytoplasmic STAT3 represses macroautophagy by inhibiting EIF2AK2/PKR activity.

Tissue specificity

Heart, brain, placenta, lung, liver, skeletal muscle, kidney and pancreas.

Involvement in disease

Hyperimmunoglobulin E recurrent infection syndrome, autosomal dominant Autoimmune disease, multisystem, infantile-onset

Sequence similarities

Belongs to the transcription factor STAT family.
Contains 1 SH2 domain.

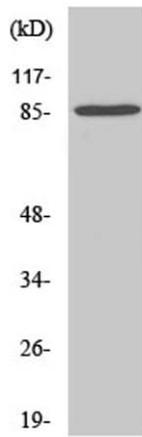
Post-translational modifications

Tyrosine phosphorylated upon stimulation with EGF. Tyrosine phosphorylated in response to constitutively activated FGFR1, FGFR2, FGFR3 and FGFR4 (By similarity). Activated through tyrosine phosphorylation by BMX. Tyrosine phosphorylated in response to IL6, IL11, LIF, CNTF, KITLG/SCF, CSF1, EGF, PDGF, IFN-alpha, LEP and OSM. Activated KIT promotes phosphorylation on tyrosine residues and subsequent translocation to the nucleus. Phosphorylated on serine upon DNA damage, probably by ATM or ATR. Serine phosphorylation is important for the formation of stable DNA-binding STAT3 homodimers and maximal transcriptional activity. ARL2BP may participate in keeping the phosphorylated state of STAT3 within the nucleus. Upon LPS challenge, phosphorylated within the nucleus by IRAK1. Upon erythropoietin treatment, phosphorylated on Ser-727 by RPS6KA5. Phosphorylation at Tyr-705 by PTK6 or FER leads to an increase of its transcriptional activity. Dephosphorylation on tyrosine residues by PTPN2 negatively regulates IL6/interleukin-6 signaling.

Cellular localization

Cytoplasm. Nucleus. 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. 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. Identified in a complex with LYN and PAG1.

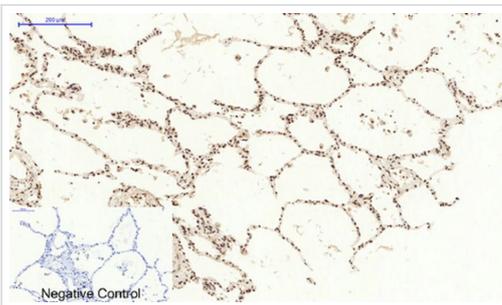
Images



Western blot - Anti-STAT3 antibody (ab31370)

Anti-STAT3 antibody (ab31370) at 1/2000 dilution + HeLa (human epithelial cell line from cervix adenocarcinoma) whole cell lysate

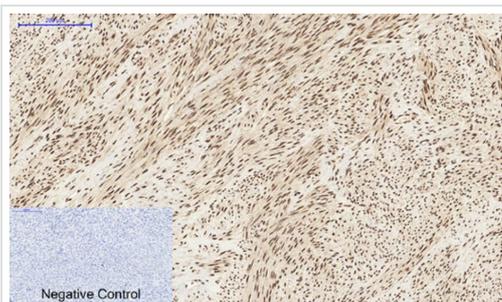
Predicted band size: 88 kDa



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-STAT3 antibody (ab31370)

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of Human lung tissue labelling STAT3 with ab31370 at 1/200 dilution. Primary incubated overnight at 4°C.

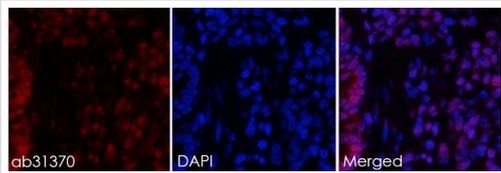
Negative control: Secondary antibody only.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-STAT3 antibody (ab31370)

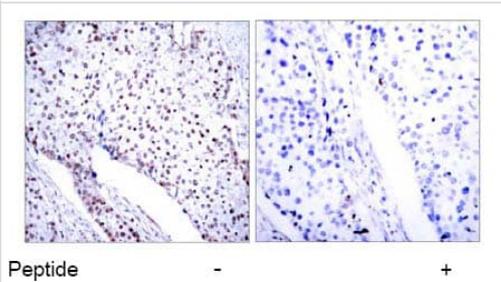
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of Human uterus tissue labelling STAT3 with ab31370 at 1/200 dilution. Primary incubated overnight at 4°C.

Negative control: Secondary antibody only.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-STAT3 antibody (ab31370)

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of Rat lung tissue labelling STAT3 with ab31370 at 1/200 dilution (red). Primary incubated overnight at 4°C. Nuclear DNA was labelled with DAPI (blue).



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-STAT3 antibody (ab31370)

Immunohistochemical analysis of paraffin-embedded breast carcinoma. Left: Using anti-STAT3 antibody(ab31370, diluted 1:100); Right: The same antibody preincubated with synthesized peptide.

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