Rabbit STAT3 Polyclonal Antibody | anti-STAT3 antibody

Phospho-STAT3 (Ser727) Antibody

CATALOG #	HOST	REACTIVITY	APPLICATIONS
AAA31042	**Rabbit**	**Human, Mouse, Rat**	**Western Blot, Immunohistochemistry, Immunofluorescence, Immunocytochemistry, Immunoprecipitation, ELISA**

PRODUCT SYNONYMS

STAT3; Polyclonal Antibody; Phospho-STAT3 (Ser727) Antibody; 1110034C02Rik; Acute Phase Response Factor; Acute-phase response factor; ADMIO; APRF; AW109958; DNA binding protein APRF; FLJ20882; HIES; MGC16063; Signal transducer and activator of transcription 3 (acute phase response factor); Signal transducer and activator of transcription 3; STAT 3; Stat3; STAT3_HUMAN; anti-STAT3 antibody

PRODUCT SPECIFICATIONS

Host	Rabbit
Reactivity	Human, Mouse, Rat
Clonality	Polyclonal
Isotype	IgG
Specificity	Phospho-STAT3 (Ser727) antibody detects endogenous levels of STAT3 only when phosphorylated at Serine 727
Purity/Purification	From purified rabbit serum by affinity purification via sequential chromatography on phospho-and non-phospho-peptide affinity columns.
Form/Format	Liquid Phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol.
Concentration	1mg/ml (varies by lot)
Sequence Length	769
Applicable Applications for anti-STAT3 antibody	WB (Western Blot), IHC (Immunohistochemistry), IF (Immunofluorescence), ICC (Immunocytochemistry), IP (Immunoprecipitation), ELISA
Application Notes	WB: 1:500-1:2000 IHC: 1:50-1:200 IF/ICC: 1:100-1:500 IP: 1:100-1:500
Immunogen	A synthesized peptide derived from human STAT3 around the phosphorylation site of Serine 727
Subcellular Location	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.
Tissue Specificity	Heart, brain, placenta, lung, liver, skeletal muscle, kidney and pancreas.
Predicted Cross Reactivity	**Pig, Bovine, Horse, Sheep, Rabbit, Chicken**
Similarity	Pig (91%), Bovine (91%), Horse (91%), Sheep (82%), Rabbit (91%), Chicken (91%)
Conjugation	Unconjugated
Epitope	Phospho Ser727

Preparation and Storage	Store at -20 degree C. Stable for 12 months from date of receipt.

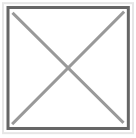
IMAGES



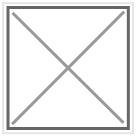
WB (Western Blot)
Western blot analysis of STAT3 phosphorylation expression in HeLa whole cell lysates, The lane on the left is treated with the antigen-specific peptide.



WB (Western Blot)
Western blot analysis of Phospho-STAT3 (Ser727) expression in Rat brain lysate



IF (Immunofluorescence)
AAA31042 staining A-431 cells by IF/ICC. The sample were fixed with PFA and permeabilized in 0.1% Triton X-100, then blocked in 10% serum for 45 minutes at 25 degree C. The primary antibody was diluted at 1/200 and incubated with the sample for 1 hour at 37 degree C. An Alexa Fluor 594 conjugated goat anti-rabbit IgG (H+L) antibody, diluted at 1/600, was used as secondary antibody.



IF (Immunofluorescence)
AAA31042 staining LOVO by IF/ICC. The sample were fixed with PFA and permeabilized in 0.1% Triton X-100, then blocked in 10% serum for 45 minutes at 25 degree C. The primary antibody was diluted at 1/200 and incubated with the sample for 1 hour at 37 degree C. An Alexa Fluor 594 conjugated goat anti-rabbit IgG (H+L) Ab, diluted at 1/600, was used as the secondary antibody.



IHC (Immunohistochemistry)
AAA31042 at 1/200 staining Rat ganstric tissue sections by IHC-P. The tissue was formaldehyde fixed and a heat mediated antigen retrieval step in citrate buffer was performed. The tissue was then blocked and incubated with the antibody for 1.5 hours at 22 degree C. An HRP conjugated goat anti-rabbit antibody was used as the secondary.



IHC (Immunohistochemistry)
AAA31042 at 1/200 staining Rat lung tissue sections by IHC-P. The tissue was formaldehyde fixed and a heat mediated antigen retrieval step in citrate buffer was performed. The tissue was then blocked and incubated with the antibody for 1.5 hours at 22 degree C. An HRP conjugated goat anti-rabbit antibody was used as the secondary.

ADDITIONAL INFORMATION

Related Product Information for anti-STAT3 antibody	Description: The protein encoded by this gene is a member of the STAT protein family. In response to cytokines and growth factors, STAT family members are phosphorylated by the receptor associated kinases, and then form homo- or heterodimers that translocate to the cell nucleus where they act as transcription activators. Function: Signal transducer and transcription activator that mediates cellular responses to interleukins, KITLG/SCF, LEP and other growth factors (PubMed:10688651, PubMed:12359225, PubMed:12873986, PubMed:15194700, PubMed:17344214, PubMed:18242580, PubMed:23084476). 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 (PubMed:12873986). Binds to the interleukin-6 (IL-6)-responsive elements identified in the promoters of various acute-phase protein genes (PubMed:12359225). Activated by IL31 through IL31RA (PubMed:15194700). 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 (PubMed:28065600). 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 transctivating BIRC5 expression under LEP activation (PubMed:18242580). Cytoplasmic STAT3 represses macroautophagy by inhibiting EIF2AK2/PKR activity (PubMed:23084476). Plays a crucial role in basal beta cell functions, such as regulation of insulin secretion (By similarity). Subunit Structure: Forms a homodimer or a heterodimer with a related family member (at least STAT1) (PubMed:28065600). Interacts with IL31RA, NCOA1, PELP1, SIPAR, SOCS7, STATIP1 and TMF1. Interacts with IL23R in presence of IL23. Interacts (via SH2 domain) with NLK. Interacts with ARL2BP; the interaction is enhanced by LIF and JAK1 expression (By similarity). Interacts with KPNA4 and KPNA5; KPNA4 may be the primary mediator of nuclear import (By similarity). Interacts with CAV2; the interaction is increased on insulin-induced tyrosine phosphorylation of CAV2 and leads to STAT3 activation (By similarity). Interacts with ARL2BP; interaction is enhanced with ARL2. Interacts with NEK6 (By similarity). Binds to CDK9 when activated and nuclear. Interacts with BMX. Interacts with ZIPK/DAPK3. Interacts with PIAS3; the interaction occurs on stimulation by IL6, CNTF or OSM and inhibits the DNA binding activity of STAT3. In prostate cancer cells, interacts with STAT3 and promotes DNA binding activity of STAT3. Interacts with STMN3, antagonizing its microtubule-destabilizing activity. Interacts with the 'Lys-129' acetylated form of BIRC5/survivin. Interacts with FER. Interacts (via SH2 domain) with EIF2AK2/PKR (via the kinase catalytic domain). Interacts with STAT3; the interaction is independent of STAT3 TYR-705 phosphorylation status (PubMed:25476455). Interacts with FGFR4 (PubMed:26675719). Interacts with OCAD1 (By similarity). 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. Acetylated on lysine residues by CREBBP. Deacetylation by LOXL3 leads to disrupt STAT3 dimerization and inhibit STAT3 transcription activity (PubMed:28065600). Oxidation of lysine residues to allysine on STAT3 preferentially takes place on lysine residues that are acetylated (PubMed:28065600). Some lysine residues are oxidized to allysine by LOXL3, leading to disrupt STAT3 dimerization and inhibit STAT3 transcription activity (PubMed:28065600). Oxidation of lysine residues to allysine on STAT3 preferentially takes place on lysine residues that are acetylated (PubMed:28065600). Similarity: Belongs to the transcription factor STAT family.
References	Deng Q, Bu C, Mo L, Lv B, Song S, Xiao X, Dan G, Yang X; Journal: Evid Based Complement Alternat Med. Huang Gan Formula Eliminates the Oxidative Stress Effects of Advanced Oxidation Protein Products on the Divergent Regulation of the Expression of AGEs Receptors via the JAK2/STAT3 Pathway. Chai L, Bai L, Li L, Chen F, Zhang J; Journal: Exp Ther Med. Biological functions of lung cancer cells are suppressed in co-culture with mesenchymal stem cells isolated from umbilical cord. Wang W, Li L, Chen F, Yang Y; Journal: Oncol Rep. Umbilical cord-derived mesenchymal stem cells can inhibit the biological functions of melanoma A375 cells.

NCBI AND UNIPROT INFORMATION

NCBI GI #	21618338

NCBI GeneID	6774
NCBI Accession #	NP_003141.2
NCBI GenBank Nucleotide #	NM_003150.3
UniProt Accession #	P40763; O14916; Q9BW54; A8K7B8; K7ENL3
Molecular Weight	Observed: 86 kDa Predicted: 89 kDa
NCBI Official Full Name	signal transducer and activator of transcription 3 isoform 2
NCBI Official Synonym Full Names	signal transducer and activator of transcription 3
NCBI Official Symbol	STAT3
NCBI Official Synonym Symbols	APRF; HIES; ADMIO; ADMIO1
NCBI Protein Information	signal transducer and activator of transcription 3
UniProt Protein Name	Signal transducer and activator of transcription 3
UniProt Gene Name	**STAT3**
UniProt Synonym Gene Names	APRFImportedManual assertion inferred from database entriesiHGNC:11364

For Research Use Only. Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.

AAA Biotech | Tel: +1 (619) 604-9440 | Fax: +1 (619) 604-9441 | contact@aaabiotech.com
Online datasheet: https://stage.aaabiotech.com/polyclonal/stat3-antibody-western-blot-immunohistochemistry-immunofluorescence-immunocytochemistry-immunoprecipitation-elisa/31042