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Stat3 Monoclonal Antibody [Knockout Validated]

Purified Mouse Monoclonal Antibody (Mab)
Catalog # AW5703

Specification

Stat3 Monoclonal Antibody [Knockout Validated] - Product Information

Application	**WB,E**
Primary Accession	P40763
Other Accession	P52631, Q19S50, P42227
Reactivity	**Human**
Predicted	**Mouse, Rat, Pig**
Host	**Mouse**
Clonality	**Monoclonal**
Isotype	**IgG2a,κ**
Antigen Source	**HUMAN**

Stat3 Monoclonal Antibody [Knockout Validated] - Additional Information

Gene ID 6774

Other Names
Signal transducer and activator of transcription 3, Acute-phase response factor, STAT3, APRF, knockout

Dilution
WB~~1:2000

Target/Specificity
This Stat3 antibody is generated from a mouse immunized with Stat3 recombinant protein.

Storage
Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

Precautions
Stat3 Monoclonal Antibody [Knockout Validated] is for research use only and not for use in diagnostic or therapeutic procedures.

Stat3 Monoclonal Antibody [Knockout Validated] - Protein Information

Name STAT3 {ECO:0000303|PubMed:9630560, ECO:0000312|HGNC:HGNC:11364}

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:<a

href="http://www.uniprot.org/citations/15194700" target="_blank">15194700, PubMed:15653507, PubMed:16285960, PubMed:17344214, PubMed:18242580, PubMed:18782771, PubMed:22306293, PubMed:23084476, PubMed:28262505, PubMed:32929201, PubMed:38404237). Once activated, recruits coactivators, such as NCOA1 or MED1, to the promoter region of the target gene (PubMed:15653507, PubMed:16285960, PubMed:17344214, PubMed:18782771, PubMed:28262505, PubMed:32929201). May mediate cellular responses to activated FGFR1, FGFR2, FGFR3 and FGFR4 (PubMed:12873986). 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 (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): acetylation promotes its transcription activity and cell differentiation while deacetylation and oxidation of lysine residues by LOXL3 inhibits differentiation (PubMed:28065600, PubMed:28262505). 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). Following JAK/STAT signaling activation and as part of a complex with NFATC3 and NFATC4, binds to the alpha-beta E4 promoter region of CRYAB and activates transcription in cardiomyocytes (By similarity).

Cellular Location
Cytoplasm. Nucleus Note=Shuttles between the nucleus and the cytoplasm (PubMed:29162862) Translocated into the nucleus upon tyrosine phosphorylation and dimerization, in response to signaling by activated FGFR1, FGFR2, FGFR3 or FGFR4 (PubMed:15653507, PubMed:16285960). 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. Translocates to the nucleus in the presence of EDN1 (By similarity). {ECO:0000250|UniProtKB:P52631, ECO:0000269|PubMed:15653507, ECO:0000269|PubMed:16285960, ECO:0000269|PubMed:29162862}

Tissue Location
Heart, brain, placenta, lung, liver, skeletal muscle, kidney and pancreas. Expressed in naive

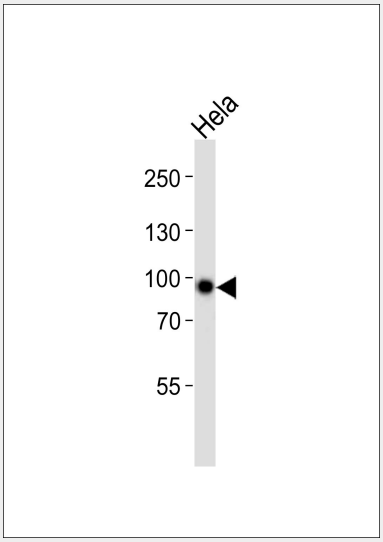
CD4(+) T cells as well as T-helper Th17, Th1 and Th2 cells (PubMed:31899195)

Stat3 Monoclonal Antibody [Knockout Validated] - Protocols

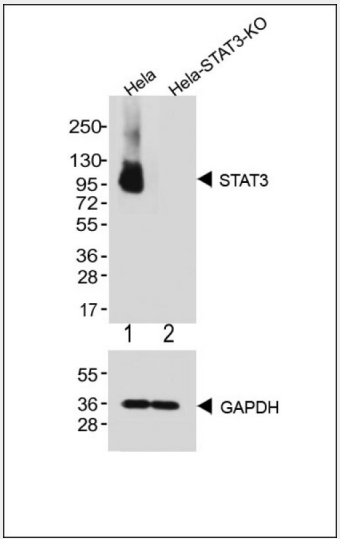
Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

Stat3 Monoclonal Antibody [Knockout Validated] - Images



Western blot analysis of lysate from Hela cell line, using Stat3 Antibody (Cat. #AW5703). AW5703 was diluted at 1:1000. A goat anti-mouse IgG H&L(HRP) at 1:3000 dilution was used as the secondary antibody. Lysate at 35µg.



All lanes : Anti-Stat3 Antibody at 1:2000 dilution (upper) Lane 1: Hela Lane 2: Hela-Stat3-Knockout Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Mouse IgG, (H+L), Peroxidase conjugated at 1/10000 dilution. Predicted band size : 88 kDa Blocking/Dilution buffer: 5% NFDM/TBST.

Stat3 Monoclonal Antibody [Knockout Validated] - Background

Signal transducer and transcription activator that mediates cellular responses to interleukins, KITLG/SCF and other growth factors. 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. Cytoplasmic STAT3 represses macroautophagy by inhibiting EIF2AK2/PKR activity. Plays an important role in host defense in methicillin-resistant S.aureus lung infection by regulating the expression of the antimicrobial lectin REG3G (By similarity).

Stat3 Monoclonal Antibody [Knockout Validated] - References

Akira S.,et al.Cell 77:63-71(1994).
Della Pietra L.,et al.Gene 213:119-124(1998).
Ota T.,et al.Nat. Genet. 36:40-45(2004).
Della Pietra L.,et al.Submitted (OCT-1997) to the EMBL/GenBank/DDBJ databases.
Zhang X.,et al.Science 267:1990-1994(1995).