ARG54150
anti-STAT3 antibody

Package: 100 µl, 50 µl
Store at: -20°C

Summary

Product Description	Mouse Monoclonal antibody recognizes STAT3
Tested Reactivity	Hu, Ms, Rat, Hm
Tested Application	WB
Host	Mouse
Clonality	Monoclonal
Isotype	IgG1
Target Name	STAT3
Species	Human
Immunogen	Purified recombinant human STAT3 protein fragments expressed in E.coli
Conjugation	Un-conjugated
Alternate Names	ADMIO; APRF; HIES; Acute-phase response factor; Signal transducer and activator of transcription 3

Application Instructions

Application table

Application	Dilution
WB	1:1000

Application Note: * The dilutions indicate recommended starting dilutions and the optimal dilutions or concentrations should be determined by the scientist.

Properties

Form	Liquid
Buffer	Ascites
Storage instruction	For continuous use, store undiluted antibody at 2-8°C for up to a week. For long-term storage, aliquot and store at -20°C or below. Storage in frost free freezers is not recommended. Avoid repeated freeze/thaw cycles. Suggest spin the vial prior to opening. The antibody solution should be gently mixed before use.
Note	For laboratory research only, not for drug, diagnostic or other use.

Bioinformation

Gene Symbol	STAT3
Gene Full Name	signal transducer and activator of transcription 3 (acute-phase response factor)
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

Function	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. 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). [UniProt]
Highlight	Related products: STAT3 antibodies; Anti-Mouse IgG secondary antibodies; Related news: LKB1 deficiency in T cells promotes gut tumors
Research Area	Cancer antibody; Cell Biology and Cellular Response antibody; Developmental Biology antibody; Gene Regulation antibody; Signaling Transduction antibody
Calculated Mw	88 kDa
PTM	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).
Cellular Localization	Cytoplasm. Nucleus.

Images

ARG54150 anti-STAT3 antibody WB image

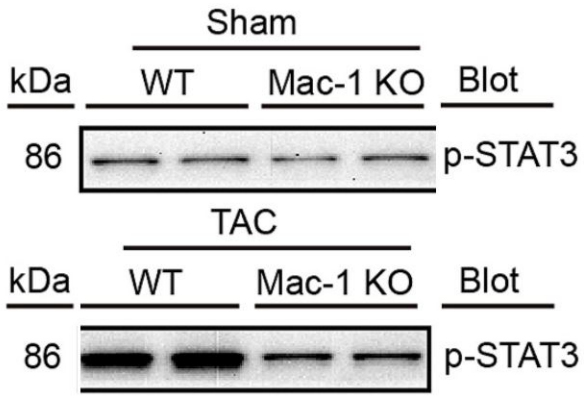
Western blot: A549 stained with ARG54150 anti-STAT3 antibody.

From Zhu Y et al. Cell Biochem Funct- (2018), doi: 10.1002/cbf.3340, Fig. 5. C.

ARG54150 anti-STAT3 antibody WB image

Western blot: Mouse intestine stained with ARG54150 anti-STAT3 antibody.

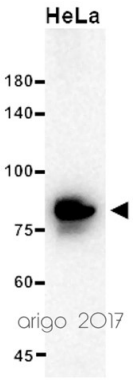
From Yu H et al. Front Microbiol. (2023), doi: 10.3389/fmicb.2023.1126808, Fig. 4. B.



ARG54150 anti-STAT3 antibody WB image

Western blot: Mouse heart stained with ARG54150 anti-STAT3 antibody.

From Lin QY et al. BBA - Molecular Basis of Disease (2024), doi: 10.1016/j.bbadis.2024.167048, Fig. 3. E.



ARG54150 anti-STAT3 antibody WB image

Western blot: 20 µg of HeLa cell lysate stained with ARG54150 anti-STAT3 antibody at 1:1000 dilution.