abcam

ab202876

Alexa Fluor® 555 Anti-STAT3 (phospho Y705) antibody [EP2147Y]

Recombinant | RabMAb

Key facts

Isotype	IgG
Host species	Rabbit
Conjugation	Alexa Fluor® 555
Excitation/Emission	Ex: 555nm, Em: 565nm
Storage buffer	pH: 7.4 Preservative: 0.02% Sodium azide Constituents: PBS, 30% Glycerol (glycerin, glycerine), 1% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	EP2147Y
Purification technique	Affinity purification Protein A
Concentration	0.5 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

ICC/IF

Tested

Species	Human
Dilution info	1/100
Notes	This product gave a positive signal in HeLa cells treated with 50ng/ml IFNα for 5 minutes and fixed with 4% formaldehyde (10 min).

Expected

Species	Mouse
Dilution info	Use at an assay dependent concentration.
Notes	-

Predicted

Species	Rat, Rat
Dilution info	-
Notes	-

Flow Cyt (Intra)

Expected

Species	Human, Mouse
Dilution info	Use at an assay dependent concentration.
Notes	-

Predicted

Species	Rat, Rat
Dilution info	-
Notes	-

IHC-P

Expected

Species	Human, Mouse

Dilution info	Use at an assay dependent concentration.
Notes	-

Predicted

Species	Rat, Rat
Dilution info	-
Notes	-

Target data

See full target information STAT3 pY705

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: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).

Storage

Shipped at conditions	Blue Ice

Appropriate short-term storage duration	1-2 weeks
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	-20°C
Aliquoting information	Upon delivery aliquot
Storage information	Stable for 12 months at -20°C, Store in the dark

Notes

Patented technology
Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to RabMAb® patents.

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Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	Signal Transducer and Activator of Transcription 3 (STAT3) also called p-stat3 or phospho-STAT3 is a critical transcription factor involved in various cellular processes. The molecular weight of STAT3 is approximately 92 kDa. This protein is expressed broadly across many tissues and cell types. Mechanically upon cytokine or growth factor stimulation STAT3 undergoes phosphorylation resulting in dimerization. This phosphorylated form often referred to as phospho-Stat3 or p-STAT3 translocates to the nucleus where it binds specific DNA sequences to modulate gene transcription.
Biological function summary	STAT3 is an important player in regulating cell growth and apoptosis. It functions not only as a transcription factor but also as part of a larger protein complex that operates within the cell nucleus to influence gene expression. This multifaceted role enables STAT3 to control the expression of genes related to cell proliferation

	survival and differentiation impacting various biological processes. These functions highlight its importance in tissue homeostasis and response to extracellular signals.
Pathways	STAT3 is actively involved in the JAK-STAT signaling pathway a principal route for many cytokines and growth factors and the MAPK pathway. STAT3 interacts with proteins such as JAK kinases which phosphorylate Stat3 and initiate the STAT3 signaling cascade. Additionally it closely associates with the protein Raf1 in the MAPK pathway linking external signals to transcriptional responses. These pathways play a significant role in immune response inflammation and growth signaling.
Associated diseases and disorders	Researchers have implicated STAT3 in cancer and autoimmune diseases. Persistent activation of STAT3 is often observed in various cancers including breast and lung cancer promoting oncogenesis through altered gene expression. Additionally abnormal STAT3 signaling is associated with autoimmune conditions such as rheumatoid arthritis. The interplay between STAT3 and proteins like IL-6 in these diseases highlights its potential as a therapeutic target for intervention.

Product promise

Tested

We have tested this species and application combination and it works. It is covered by our product promise.

Expected

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

Predicted

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

Not recommended

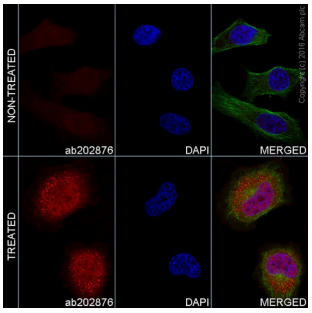
We do not recommend this combination. It is not covered by our product promise.

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In the unlikely event of one of our products not working as expected, you are covered by our product promise.

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1 product image



Immunocytochemistry/ Immunofluorescence - Alexa Fluor® 555 Anti-STAT3 (phospho Y705) antibody [EP2147Y] (ab202876)

STAT3 (phospho Y705) Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-STAT3 (phospho Y705) antibody

ab202876 staining STAT3 (phospho Y705) in HeLa cells. The cells were incubated with 50ng/ml IFNα for 5 minutes (Treated) or solvent-only for control purposes (Non-treated). Cells were fixed with 4% formaldehyde (10min), permeabilized with 0.1% Triton X-100 for 5 minutes and then blocked in 1% BSA/10% normal goat serum/0.3M glycine in 0.1% PBS-Tween for 1h. The cells were then incubated with ab202877 at 1/100 dilution (**pseudocolored in red**) and ab195887 Mouse monoclonal [DM1A] to alpha Tubulin - Microtubule Marker (Alexa Fluor® 488) at 2µg/ml (shown in green) overnight at +4°C. Nuclear DNA was labelled in blue with DAPI.
Image was taken with a confocal microscope (Leica-Microsystems, TCS SP8).

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