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# STAT3 Antibody

Purified Mouse Monoclonal Antibody (Mab)
Catalog # AM8415b

## Product Information

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| **Application** | WB, IHC-P, E |
| **Primary Accession** | P40763 |
| **Reactivity** | Human, Mouse |
| **Predicted** | Rat, Bovine, Canine, Rabbit, Chicken |
| **Host** | Mouse |
| **Clonality** | Monoclonal |
| **Isotype** | IgG2a,κ |
| **Clone Names** | 1200CT146.104.153 |
| **Calculated MW** | 88068 |

## Additional Information

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| **Gene ID** | 6774 |
| **Other Names** | Signal transducer and activator of transcription 3, Acute-phase response factor, STAT3, APRF |
| **Target/Specificity** | This STAT3 antibody is generated from a mouse immunized with a recombinant protein from human. |
| **Dilution** | WB~~1:1000 IHC-P~~1:5000 E~~Use at an assay dependent concentration. |
| **Format** | Purified monoclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein G column, followed by dialysis against PBS. |
| **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 Antibody is for research use only and not for use in diagnostic or therapeutic procedures. |

## Protein Information

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| **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:11294841, PubMed:12359225, PubMed:12873986, PubMed:15194700, PubMed:15653507, PubMed:16285960, PubMed:17344214, PubMed:18242580, |

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| | 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 transactivating 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). Involved in the oncostatin-M-mediated signaling pathway through both type I OSM receptor complex (heterodimers composed of LIFR and IL6ST) and type II OSM receptor complex (heterodimers composed of OSMR and IL6ST) (PubMed:9188471). |
| **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) |

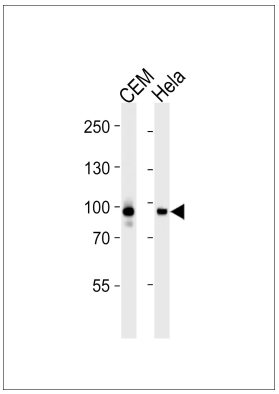
## Background

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).

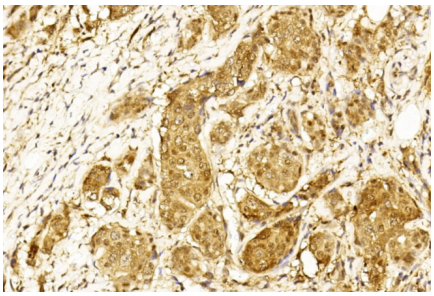
## References

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).

## Images




Western blot analysis of lysates from CEM, Hela cell line (from left to right), using Stat3 Antibody(Cat. #AM8415b). AM8415b was diluted at 1:1000 at each lane. A goat anti-mouse IgG H&L(HRP) at 1:3000 dilution was used as the secondary antibody. Lysates at 35µg per lane.



Immunohistochemical analysis of paraffin-embedded Human Breast cancer section using Pink1(Cat#AM8415b). AM8415b was diluted at 1:5000 dilution. A undiluted biotinylated goat polyvalent antibody was used as the secondary, followed by DAB staining.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.