



Qty: 100 µg/200 µl

Mouse anti-STAT4

Catalog No. 33-2300

Lot No. See product label

## Monoclonal Mouse anti-STAT4

### FORM

This antibody is supplied as a 200 µl aliquot at 0.5 mg/ml in phosphate buffered saline, pH 7.4, containing 0.1% sodium azide. The antibody is epitope-affinity-purified from mouse ascites.

**CLONE:** ST4-5D6

**ISOTYPE:** Mouse IgG<sub>2a</sub>-kappa

### IMMUNOGEN

A synthetic peptide derived from the C terminus of murine STAT4.

### SPECIFICITY

This antibody reacts specifically with the STAT4 protein. Cross-reactivity with other STAT family proteins has not been detected.

### REACTIVITY

### USAGE

The dilutions below are only starting recommendations. Optimal concentrations of this antibody should be determined by the researcher for each specific application.

**ELISA:** 0.1-1.0 µg/ml  
**Immunoprecipitation:** 5 µg  
**Western Blotting:** 1-2 µg/ml  
**Gel Mobility Shift Assay:** 1-5 µg/ml

### STORAGE

Store at 2-8°C for up to one month. Store at -20°C for long term storage. Avoid repeated freezing and thawing.

### BACKGROUND<sup>(1-6)</sup>

STAT4 was originally identified using degenerate primers complementary to sequences encoding conserved regions of other STAT proteins. The STAT4 protein is most similar to STAT 1 (52%) and STAT3 (47%). Functionally, STAT4 is similar to other STAT family members in that it can be tyrosine phosphorylated by Jak1 or Jak2. STAT4 forms homodimers and heterodimers with related STAT family members. Tyrosine phosphorylated STAT4 can bind the IFN-gamma activated site (GAS). Serine phosphorylation of STAT is also required for maximal transcriptional activity. STAT4 expression is restricted to the thymus, spleen and testis.

Until recently the cytokine(s) responsible for activation of STAT4 had not been identified. STAT4 is now known to be activated by the cytokine interleukin -12 (IL-12). IL-12 is required for the T-cell independent induction of IFN-gamma which is a key step in the initial suppression of bacterial and parasitic infections. In addition, IL-12 is required for the development of a Th1 response which is necessary for effective host defense against intracellular pathogens. Perhaps not surprisingly, STAT4-deficient mice display impaired IL-12 development of Th1 cells and enhanced development of Th2 cells. A recent study has suggested that tyrosine and serine phosphorylation of STAT4 can be induced by both IL-12 and IFN-alpha.

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**REFERENCES**

1. Yakamoto, K., et al. *Mol. Cell. Biol.* 14:4342-4349 (1994).
2. Zong, Z., et al. *Proc. Natl. Acad. Sci. USA* 91:4806-4810 (1994).
3. Thierfelder, W.E., et al. *Nature* 382:171-174 (1996).
4. Yu, C.R., et al. *J. Immunol.* 157:126-137 (1996).
5. Cho, S.S., et al. *J. Immunol.* 157:4781-4789 (1996).
6. Kaplan, M.H., et al. *Nature* 382:174-177 (1996).

**RELATED PRODUCTS**

<b>Product</b>	<b>Clone</b>	<b>Cat. No.</b>
Rabbit anti-STAT1 $\alpha$ / $\beta$ (p91/p84) (Unconjugated)	1-SH2	71-6100
Rabbit anti-STAT1 $\alpha$ / $\beta$ (p91/p84) (FITC Conjugated)	1-SH2	71-6111
Mouse anti-phosphoSTAT1	ST1P-11A5	33-3400
Rabbit anti-phosphoSTAT1	ZBA7	71-1700
Mouse anti-STAT1 $\alpha$	ST1-3D4	33-1400
Rabbit anti-STAT1 $\alpha$	Z-341	71-4300
Rabbit anti-STAT2 (human)	Z-91	71-4400
Rabbit anti-STAT2 (mouse)	Z-52	71-5600
Mouse anti-STAT3	ST3-5G7	13-7000
Rabbit anti-STAT3	Z-23S	71-0900
Rabbit anti-phosphoSTAT4	ST4P	71-7900
Rabbit anti-STAT4	Z-17S	71-4500
Mouse anti-phosphoSTAT5	ST5P-4A9	33-6000
Rabbit anti-phosphoSTAT5	ZyAL	71-6900
Mouse anti-STAT5 (PAN)	ST5-8F7	33-5900
Mouse anti-STAT5a	ST5a-2H2	13-3600
Rabbit anti-STAT5a	Z-82	71-2400
Mouse anti-STAT5b	ST5b-10G1	13-5300
Rabbit anti-STAT5b	Z-61	71-2500
Mouse anti-STAT6	ST6-3E4	13-5400
STAT Antibody Sampler Pack	6 antibodies	90-0700

<b>Product</b>	<b>Conjugate</b>	<b>Cat. No.</b>
Goat anti-Mouse IgG (H+L) (ZyMAX™ Grade)	Purified	81-6500
	FITC	81-6511
	TRITC	81-6514
	Cy™ <sup>3</sup>	81-6515
	Cy™ <sup>5</sup>	81-6516
	HRP	81-6520
	AP	81-6522
	Biotin	81-6540

Protein A	Sepharose® 4B	10-1041
rec-Protein G	Sepharose® 4B	10-1241

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