



Qty: 50 µg/ 200 µl

Rabbit anti-phospho-
STAT4

Catalog No. 71-7900

Lot No. See product label

Rabbit anti-Phosphorylated (Y693)-STAT4

FORM

This antibody is supplied as a 200 µl aliquot at 0.25 mg/ml in phosphate buffered saline, pH 7.4, containing 0.1% sodium azide. The antibody is affinity-purified from rabbit antiserum.

IMMUNOGEN

A synthetic tyrosine phosphorylated peptide encompassing and phosphorylated at the conserved tyrosine phosphorylation site (Y-693) of the murine STAT4 protein. This sequence and phosphorylation site is 100% conserved in human STAT4.

PAD (Polyclonal Antibody Designation): ST4P

SPECIFICITY

This antibody reacts specifically with STAT4 phosphorylated at tyrosine-693 (phosphoSTAT4; activated STAT4). Reactivity was confirmed by Western blotting using lysates from 293 cells transfected with a STAT4 expression vector together with either a wild type or kinase "dead" Jak1 expression vector. Recognition of endogenous tyrosine phosphorylated STAT4 was confirmed with lysates from untreated or INFα-stimulated peripheral blood lymphocytes. Cross-reaction with other STAT proteins has not been observed.

REACTIVITY

This antibody reacts with mouse phosphoSTAT4. Based on sequence homology, reactivity with human phosphoSTAT4 is expected, though unconfirmed.

Sample	ELISA	Western Blotting
Mouse		+
Human		likely
Immunogen	+	

USAGE

Working concentrations for specific applications should be determined by the investigator. Appropriate concentrations will be affected by several factors, including secondary antibody affinity, antigen concentration, sensitivity of detection method, temperature and length of incubations, etc. The suitability of this antibody for applications other than those listed below has not been determined. The following concentration ranges are recommended starting points for this product.

ELISA: 0.1-1.0 µg/ml

Western Blotting: 1-3 µg/ml

The performance of this antibody in applications other than those shown here has not been evaluated.

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⁽¹⁻⁷⁾

STAT4 was originally identified using degenerate primers complementary to sequences encoding conserved regions of other STAT proteins. The STAT4 protein is most similar to STAT1 (52%) and to 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

(cont'd)

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heterodimers with related STAT family members. Tyrosine phosphorylated STAT4 can bind the IFN-gamma activated site (GAS). Maximum transcriptional activity of STAT4 requires serine phosphorylation. STAT4 expression is restricted to the thymus, spleen and testis. Both tyrosine and serine residues on STAT4 become phosphorylated in response to IL-12 or IFN- α although serine phosphorylation is not required for DNA binding.

STAT4 is activated in T-cells in response to the cytokine interleukin-12 (IL-12), and in NK cells by IL-2. 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. STAT4-deficient mice display impaired IL-12 development of Th1 cells and enhanced development of Th2 cells.

REFERENCES

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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).
7. Wang KS, et al. *J Immunol.* 1999 Jan 1;162(1):299-304 (1999).

RELATED PRODUCTS

Product	Clone/PAD*	Cat. No.
STAT Sampler Pack	(see www.zymed.com)	90-0700
Rb x phospho-STAT1 (Y701)	ZBA7	71-1700
Ms x phospho-STAT1 (Y701)	ST1P-11A5	33-3400
Rb x STAT1 α	Z-341	71-4300
Ms x STAT1 α	ST1-3D4	33-1400
Rb x STAT1 α/β	1-SH2	71-6100
Rb x STAT1 α/β -(FITC conjugate)	1-SH2	71-6111
Rb x STAT2 (human)	Z-91	71-4400
Ms x STAT2 (human)	ST2-12B1	33-4400
Rb x STAT2 (mouse)	Z-52	71-5600
Rb x STAT3	Z-23S	71-0900
Ms x STAT3	ST3-5G7	13-7000
Rb x STAT4	Z-17S	71-4500
Ms x STAT4	ST4-5D6	33-2300
Rb x Phospho-STAT5 (Y694)	ZyAL	71-6900
Ms x phospho-STAT5 (Y694)	ST5P-4A9	33-6000
Rb x STAT5a	Z-82	71-2400
Ms x STAT5a	ST5a-2H2	13-3600
Rb x STAT5b	Z-61	71-2500
Ms x STAT5b	ST5b-10G1	13-5300
Ms x STAT5 (pan)	ST5-8F7	33-5900
Rb x STAT6	Z-16S	71-1100
Ms x STAT6	ST6-3E4	13-5400

*PAD-polyclonal antibody designation

Product	Conjugate	Cat. No.
Protein A	Seahorse [®] 4B	10-1041
rec-Protein G	Sepharose [®] 4B	10-1241

Conjugate	ZyMAX[™] Goat x Rabbit	ZyMAX[™] Goat x Mouse
	IgG (H+L)	IgG (H+L)
Purified	81-6100	81-6500
FITC	81-6111	81-6511
TRITC	81-6114	81-6514
Cy [™] 3	81-6115	81-6515
Cy [™] 5	81-6116	81-6516
HRP	81-6120	81-6520
AP	81-6122	81-6522
Biotin	81-6140	81-6540

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