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#4134

## Phospho-Stat4 (Tyr693) (D2E4) Rabbit mAb

**For Research Use Only. Not for Use in Diagnostic Procedures.**

<b>Applications:</b> W, IP, IF-IC, FC-FP, ChIP	<b>Reactivity:</b> H	<b>Sensitivity:</b> Endogenous	<b>MW (kDa):</b> 81	<b>Source/Isotype:</b> Rabbit IgG	<b>UniProt ID:</b> #Q14765	<b>Entrez-Gene Id:</b> 6775
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### Product Usage Information

For optimal ChIP results, use 10  $\mu$ l of antibody and 10  $\mu$ g of chromatin (approximately  $4 \times 10^6$  cells) per IP. This antibody has been validated using SimpleChIP<sup>®</sup> Enzymatic Chromatin IP Kits.

Application	Dilution
Western Blotting	1:1000
Immunoprecipitation	1:100
Immunofluorescence (Immunocytochemistry)	1:1600 - 1:3200
Flow Cytometry (Fixed/Permeabilized)	1:1600
Chromatin IP	1:50

### Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100  $\mu$ g/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at  $-20^{\circ}\text{C}$ . Do not aliquot the antibody.

For a carrier free (BSA and azide free) version of this product see product #42353.

### Specificity/Sensitivity

Phospho-Stat4 (Tyr693) (D2E4) Rabbit mAb recognizes endogenous levels of Stat4 protein only when phosphorylated at Tyr693.

### Species predicted to react based on 100% sequence homology

Mouse, Rat, Monkey, Pig

### Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Tyr693 of human Stat4 protein.

### Background

The Jak-Stat signaling pathway is utilized by a large number of cytokines, growth factors, and hormones (1). Receptor-mediated tyrosine phosphorylation of Jak family members triggers phosphorylation of Stat proteins, resulting in their nuclear translocation, binding to specific DNA elements, and subsequent activation of transcription. The remarkable range and specificity of responses regulated by the Stats is determined, in part, by the tissue-specific expression of different cytokine receptors, Jaks, and Stats, as well as by the combinatorial coupling of various Stat members to different receptors (2). Stat4 is predominantly expressed in the spleen, thymus, and testis and has been most extensively investigated as the mediator of IL-12 responses (3-8). Activation of Stat4 is associated with phosphorylation at Tyr693 (9). Stat4 is activated in response to IL-2 in natural killer (NK) cells, but not in T cells (10).

### Background References

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- Yamamoto, K. et al. (1994) *Mol. Cell Biol.* 14, 4342-4349.
- Jacobson, N.G. et al. (1995) *J. Exp. Med.* 181, 1755-1762.
- Bacon, C.M. et al. (1995) *Proc. Natl. Acad. Sci. USA* 92, 7307-7311.
- Thierfelder, W.E. et al. (1996) *Nature* 382, 171-174.
- Kaplan, M.H. et al. (1996) *Nature* 382, 174-177.
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- Wang, K.S. et al. (1999) *J Immunol* 162, 299-304.

### Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

### Western Blot Buffer

**IMPORTANT:** For western blots, incubate membrane with diluted primary antibody in 5% w/v BSA, 1X TBS, 0.1% Tween<sup>®</sup> 20 at  $4^{\circ}\text{C}$  with gentle shaking, overnight.

**Applications Key**

**W:** Western Blotting **IP:** Immunoprecipitation **IF-IC:** Immunofluorescence (Immunocytochemistry) **FC-FP:** Flow Cytometry (Fixed/Permeabilized) **ChIP:** Chromatin IP

**Cross-Reactivity Key**

**H:** Human

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