

Kit Includes	Quantity	Applications	Reactivity	MW (kDa)	Isotype
Stat1 Antibody #9172	40 µl	W IP ChIP	H M R Mk (B) (Dg)	84, 91	Rabbit
Stat3 (79D7) Rabbit mAb #4904	40 µl	W IP ChIP	H M R Mk	79, 86	Rabbit IgG
Stat5 Antibody #9363	40 µl	W IP ChIP	H M R Mk	90	Rabbit
Stat6 Antibody #9362	40 µl	W IP	H M R (B)	110	Rabbit
Anti-rabbit IgG, HRP-linked Antibody #7074	100 µl				Goat

Applications Key: W=Western Blotting IP=Immunoprecipitation ChIP=Chromatin IP

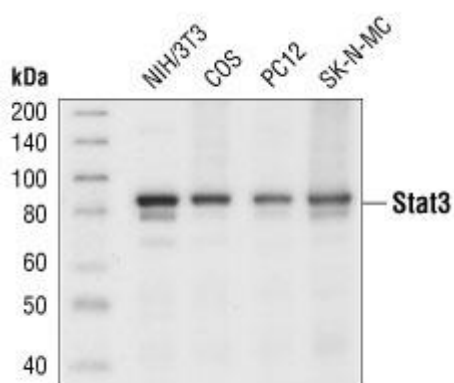
Reactivity Key: H=Human M=Mouse R=Rat Mk=Monkey B=Bovine Dg=Dog

Species enclosed in parentheses are predicted to react based on 100% sequence homology.

Specificity / Sensitivity

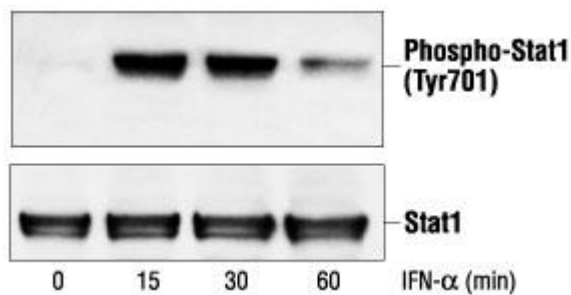
Each Stat antibody in the kit recognizes only its target protein, independent of phosphorylation state.

Western Blotting



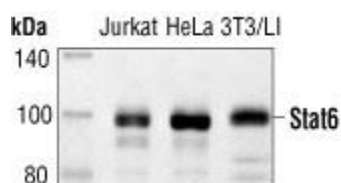
Western blot analysis of extracts from various cell lines using Stat3 (79D7) Rabbit mAb #4904.

Western Blotting



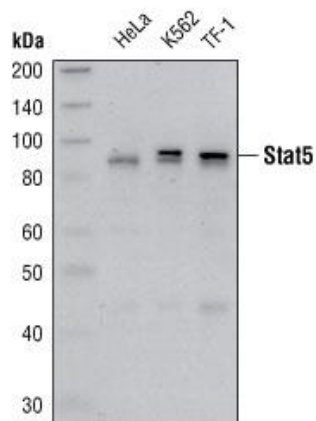
Western blot analysis of extracts from SK-MEL-28 cells, untreated or IFN- α -treated (100 ng/ml), using Phospho-Stat1 (Tyr701) Antibody #9171 (upper) or Stat1 Antibody #9172 (lower).

Western Blotting



Western blot analysis of extracts from various cell lines using Stat6 Antibody #9362.

Western Blotting



Western blot analysis of extracts from K562 and BaF3 cell lines using Stat5 Antibody #9363.

Description

The Stat Antibody Sampler Kit provides an economical means to examine multiple Stat proteins: Stat1, Stat3, Stat5 and Stat6. The kit contains enough primary and secondary antibodies to perform four Western blot experiments.

Source / Purification

Polyclonal antibodies are produced by immunizing animals with synthetic peptides corresponding to residues of human Stat1, human Stat5 and human Stat6. Antibodies are purified by protein A and peptide affinity chromatography.

Monoclonal antibody is produced by immunizing animals with GST-Stat3 fusion protein corresponding to the carboxy-terminal sequence of mouse Stat3 protein.

Background

Jaks (Janus Kinases) and Stats (Signal Transducers and Activators of Transcription) are utilized by receptors for a wide variety of ligands including cytokines, hormones, growth factors and neurotransmitters. Jaks, activated via autophosphorylation following ligand-induced receptor aggregation, phosphorylate tyrosine residues on associated receptors, Stat molecules and other downstream signaling proteins (1,2). The phosphorylation of Stat proteins at conserved tyrosine residues activates SH2-mediated dimerization followed rapidly by nuclear translocation. Stat dimers bind to IRE (interferon response element) and GAS (gamma interferon-activated sequence) DNA elements, resulting in the transcriptional regulation of downstream genes (1,2). 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 (2,3), and by the combinatorial coupling of various Stat members to different receptors. Serine phosphorylation in the carboxy-terminal transcriptional activation domain has been shown to regulate the function of Stat1, -2, -3, -4 and -5 (1). Phosphorylation of Stat3 at Ser727 via MAPK or mTOR pathways is required for optimal transcriptional activation in response to growth factors and cytokines including IFN-gamma and CNTF (4,5). Jak/Stat pathways also play important roles in oncogenesis, tumor progression, angiogenesis, cell motility, immune responses and stem cell differentiation (6-11).

1. [Darnell Jr., J. et al. \(1994\) *Science* 264, 1415-1421.](#)
2. [Leonard, W.J. and O'Shea, J.J. \(1998\) *Annu. Rev. Immunol.* 16, 293-322.](#)
3. [Caldenhoven, E. et al. \(1996\) *J. Biol. Chem.* 271, 13221-13227.](#)
4. [Wen, Z. et al. \(1995\) *Cell* 82, 241-250.](#)
5. [Yokogami, K. et al. \(2000\) *Curr. Biol.* 10, 47-50.](#)
6. [Lim, C.P. and Cao, X. \(1999\) *J. Biol. Chem.* 274, 31055-31061.](#)
7. [Bromberg, J. F. et al. \(1999\) *Cell* 98, 295-303.](#)
8. [Su, L. et al. \(1999\) *J. Biol. Chem.* 274, 31770-31774.](#)
9. [Dentelli, P. et al. \(1999\) *J. Immunol.* 163, 2151-2159.](#)
10. [Cattaneo, E. et al. \(1999\) *Trends Neurosci.* 22, 365-369.](#)
11. [Frank, D.A. \(1999\) *Mol. Med.* 5, 432-456.](#)