Revision 1

Store at -20C

#9914

Phospho-Stat Antibody Sampler Kit

1 Kit (6 x 20 microliters)

Cell Signaling TECHNOLOGY®

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Product Includes	Product #	Quantity	Mol. Wt	Isotype/Source
Phospho-Stat1 (Tyr701) (D4A7) Rabbit mAb	7649	20 µl	84, 91 kDa	Rabbit IgG
Phospho-Stat2 (Tyr690) Antibody	4441	20 µl	113 kDa	Rabbit
Phospho-Stat3 (Tyr705) (D3A7) XP® Rabbit mAb	9145	20 µl	79, 86 kDa	Rabbit IgG
Phospho-Stat3 (Ser727) Antibody	9134	20 µl	86 kDa	Rabbit
Phospho-Stat5 (Tyr694) (D47E7) XP® Rabbit mAb	4322	20 µl	90 kDa	Rabbit IgG
Phospho-Stat6 (Tyr641) Antibody	9361	20 µl	110 kDa	Rabbit
Anti-rabbit IgG, HRP-linked Antibody	7074	100 µl		Goat

Please visit cellsignal.com for individual component applications, species cross-reactivity, dilutions, protocols, and additional product information.

Description

The Phospho-Stat Pathway Sampler Kit provides an economical means to evaluate the activation status of Stat molecules, including the phosphorylation of Stat1 at Tyr701, Stat2 at Tyr690, Stat3 at Tyr705/Ser727, Stat5 at Tyr694 and Stat6 at Tyr641. The kit includes enough primary and secondary antibody to perform two Western blot experiments.

Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at –20°C. Do not aliquot the antibody.

Background

Janus kinases (Jaks) and signal transducers and activators of transcription (Stats) 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 interferon response element (IRE) and gamma interferon-activated sequence (GAS) 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, Stat2, Stat3, Stat4, and Stat5 (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 ciliary neurotrophic factor (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).

Background References

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