Revision 1

Store at -20C

#12348

Stat Family Alexa Fluor® 488 Conjugated Antibody Sampler Kit

Cell Signaling TECHNOLOGY®

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Product Includes	Product #	Quantity	Mol. Wt	Isotype/Source
Phospho-Stat1 (Tyr701) (58D6) Rabbit mAb (Alexa Fluor® 488 Conjugate)	9174	40 µl		Rabbit IgG
Phospho-Stat3 (Tyr705) (D3A7) XP® Rabbit mAb (Alexa Fluor® 488 Conjugate)	4323	40 µl	86 kDa	Rabbit IgG
Phospho-Stat5 (Tyr694) (C71E5) Rabbit mAb (Alexa Fluor® 488 Conjugate)	3939	40 µl		Rabbit IgG
Rabbit (DA1E) mAb IgG XP® Isotype Control (Alexa Fluor® 488 Conjugate)	2975	40 µl		Rabbit IgG

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

Description

The Stat Family Alexa Fluor® 488 Conjugated Antibody Sampler Kit provides an economical means to study the activation status of members of the Stat family of proteins without the need for a fluorescent secondary antibody.

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

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 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 Stat family members is determined in part by the tissue-specific expression of different cytokine receptors, Jak and Stat family members (2,3), and by the combinatorial coupling of various Stat members to different receptors. Stat1 is activated in response to a large number of ligands (4) and is essential for responsiveness to IFN-α and IFN-γ (5,6). Stat3 is an important signaling molecule for many cytokines and growth factor receptors (4) and is required for murine fetal development (7). Stat5 is activated in response to a wide variety of ligands including IL-2, GM-CSF, growth hormone, and prolactin. Phosphorylation at Tyr694 is obligatory for Stat5 activation (8,9).

Background References

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3. Caldenhoven, E. et al. (1996) *J Biol Chem* 271, 13221-7.
4. Heim, M.H. (1999) J Recept Signal Transduct Res 19, 75-120.
5. Durbin, J.E. et al. (1996) *Cell* 84, 443-50.
6. Meraz, M.A. et al. (1996) *Cell* 84, 431-42.
7. Takeda, K. et al. (1997) *Proc Natl Acad Sci U S A* 94, 3801-4.
8. Gouilleux, F. et al. (1994) *EMBO J* 13, 4361-9.
9. Wakao, H. et al. (1994) *EMBO J* 13, 2182-91.

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Limited Uses

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