

#97999 Store at -20°C

Phospho-Jak Family Antibody Sampler Kit

1 Kit (8 x 20 microliters)



Cell Signaling
TECHNOLOGY®

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Product Includes	Product #	Quantity	Mol. Wt	Isotype/Source
Jak1 (6G4) Rabbit mAb	3344	20 µl	130 kDa	Rabbit IgG
Phospho-Jak1(Tyr1034/1035) (D7N4Z) Rabbit mAb	74129	20 µl	130 kDa	Rabbit IgG
Jak2 (D2E12) XP® Rabbit mAb	3230	20 µl	125 kDa	Rabbit IgG
Phospho-Jak2 (Tyr1008) (D4A8) Rabbit mAb	8082	20 µl	125 kDa	Rabbit IgG
Jak3 (D1H3) Rabbit mAb	8827	20 µl	115 kDa	Rabbit IgG
Phospho-Jak3 (Tyr980/981) (D44E3) Rabbit mAb	5031	20 µl	115 kDa	Rabbit IgG
Tyk2 (D4I5T) Rabbit mAb	14193	20 µl	134 kDa	Rabbit IgG
Phospho-Tyk2 (Tyr1054/1055) (D7T8A) Rabbit mAb	68790	20 µl	134 kDa	Rabbit IgG
Anti-rabbit IgG, HRP-linked Antibody	7074	100 µl		Goat

Please visit [cellsignal.com](https://www.cellsignal.com) for individual component applications, species cross-reactivity, dilutions, protocols, and additional product information.

Description

The Phospho-Jak Family Antibody Sampler Kit provides an economical means of detecting the activation of Jak family members using phospho-specific and control antibodies. The kit includes enough antibody to perform two western blot experiments with each primary 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

Members of the Janus family of tyrosine kinases (Jak1, Jak2, Jak3, and Tyk2) are activated by ligands binding to a number of associated cytokine receptors (1). Upon cytokine receptor activation, Jak proteins become autophosphorylated and phosphorylate their associated receptors to provide multiple binding sites for signaling proteins. These associated signaling proteins, such as Stats (2), Shc (3), insulin receptor substrates (4), and focal adhesion kinase (FAK) (5), typically contain SH2 or other phosphotyrosine-binding domains.

Activation of Jak kinases upon cytokine receptor binding is associated with tyrosine phosphorylation within their activation loops, including Tyr1034/1035 of Jak1, Tyr1007/1008 of Jak2, Tyr980/981 of Jak3, and Tyr1054/1055 of Tyk2. Many studies have indicated that various cytokine receptors have clear preferences that utilize distinct Jak family members. Aberrant regulation of Jak signaling is associated with a number of diseases, including myeloproliferative neoplasms, leukemia, and inflammatory disease (6).

Background References

1. Leonard, W.J. and O'Shea, J.J. (1998) *Annu Rev Immunol* 16, 293-322.
2. Darnell, J.E. (1997) *Science* 277, 1630-5.
3. VanderKuur, J. et al. (1995) *J Biol Chem* 270, 7587-93.
4. Argetsinger, L.S. et al. (1995) *J Biol Chem* 270, 14685-92.
5. Zhu, T. et al. (1998) *J Biol Chem* 273, 10682-9.
6. Babon, J.J. et al. (2014) *Biochem J* 462, 1-13.

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