Technical Data Sheet

Purified Mouse Anti-Stat2 (pY690)

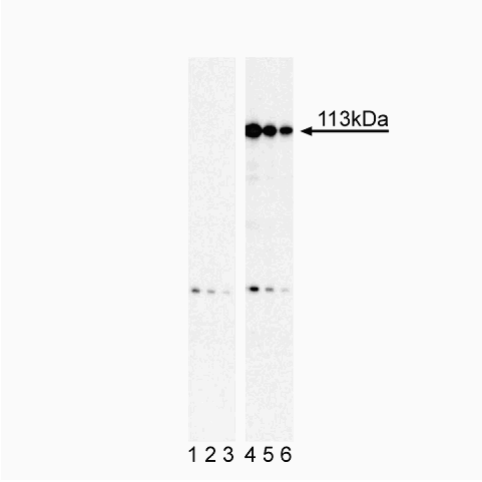
Product Information

Material Number:	**558095**
Size:	0.1 mg
Concentration:	0.5 mg/ml
Clone:	7a/Stat2
Immunogen:	Phosphorylated Human Stat2 Peptide
Isotype:	Mouse IgG1, κ
Reactivity:	QC Testing: Human
Target MW:	113 kDa
Storage Buffer:	Aqueous buffered solution containing ≤0.09% sodium azide.

Description

Stat (**S**ignal **t**ransducer and **a**ctivators of **t**ranscription) proteins are critical mediators of the biologic activity of cytokines, including interleukins, interferons, erythropoietin, and growth factors. Ligand-receptor interaction leads to activation of constitutively associated JAK family kinases and subsequent recruitment/activation of Stat proteins by tyrosine phosphorylation. Active Stat proteins then move to the nucleus to promote transcription of cytokine-inducible genes. Seven Stat proteins have been cloned, each of which is differentially expressed and/or activated in a cytokine-specific and cell type-specific manner. Stat1 and Stat2 are components of the ISGF3 (**I**nterferon-**S**timulated **G**ene **F**actor **3**) complex, which is the primary transcription activator induced by the binding of the interferon to a specific cell-surface receptor. Stat2 is a 113-kDa protein having approximately 40% homology with Stat1α. Stat2 interacts with Stat1 for the efficient activation of Stat1 in response to IFN-α, which is essential for normal transcriptional activity of the ISGF3 complex. Stat2 phosphorylation at the tyrosine 690 residue (Y690) after IFN-α activation can occur independently of Stat1, but the localization and nuclear stability of phosphorylated Stat2 is dependent on Stat1.

The 7a/Stat2 monoclonal antibody recognizes the phosphorylated Y690 of human Stat2.



Western Blot analysis of Stat2 (pY690) in human histiocytic lymphoma. *Lysates from control (left panel) and Interferon-α-activated (right panel) U937 cells (ATCC CRL-1593.2) was probed with Mouse anti-Stat2 (pY690) monoclonal antibody at concentrations of 0.5 µg/ml, (lanes 1, 4), 0.25 µg/ml, (lanes 2, 5) and 0.125 µg/ml (lanes 3, 6), respectively). Stat2 (pY690) is identified as a band of 113 kDa in the treated cells.*

Preparation and Storage

The monoclonal antibody was purified from tissue culture supernatant or ascites by affinity chromatography.
Store undiluted at 4°C.

Application Notes

Application

Western blot	Routinely Tested

Suggested Companion Products

Catalog Number	Name	Size	Clone
554002	HRP Goat Anti-Mouse Ig	1.0 ml	(none)

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Product Notices

1. Since applications vary, each investigator should titrate the reagent to obtain optimal results.
2. Please refer to www.bdbiosciences.com/pharmingen/protocols for technical protocols.
3. Caution: Sodium azide yields highly toxic hydrazoic acid under acidic conditions. Dilute azide compounds in running water before discarding to avoid accumulation of potentially explosive deposits in plumbing.

References

Bromberg J, Darnell JE. The role of STATs in transcriptional control and their impact on cellular function. *Oncogene.* 2000; 19(21):2468-2473.(Biology)

Heim MH. The Jak-STAT pathway: specific signal transduction from the cell membrane to the nucleus. *Eur J Clin Invest.* 1996; 26(1):1-12.(Biology)