Technical Data Sheet

# Purified Mouse Anti-Stat 6 (pY641)

## Product Information

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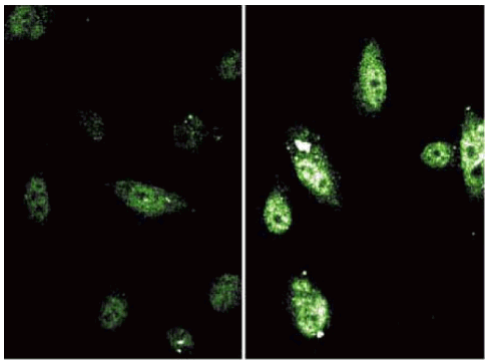
|---|---|
| **Material Number:** | **611566** |
| **Size:** | 50 µg |
| **Concentration:** | 250 µg/ml |
| **Clone:** | 18/P-Stat6 |
| **Immunogen:** | Phosphorylated Human Stat6 (pY641) |
| **Isotype:** | Mouse IgG2a |
| **Reactivity:** | QC Testing: Human |
| **Target MW:** | 100 kDa |
| **Storage Buffer:** | Aqueous buffered solution containing BSA, glycerol, and ≤0.09% sodium azide. |

## Description

Interleukin-4 (IL-4), a major immunoregulatory cytokine, is secreted by activated T lymphocytes, basophils, and mast cells and plays an important role in modulating T helper cell lineage development. It induces specific gene expression via the tyrosine phosphorylation of Stat6 at tyrosine 641 (Y641). Stat6, a member of the **s**ignal **t**ransducers and **a**ctivators of **t**ranscription protein family, mediates signals for IL-4 and, possibly, IL-13. While Stat6 is widely expressed in human tissues, it exhibits elevated expression in peripheral blood lymphocytes, colon, intestine, ovary, prostate, thymus, spleen, kidney, liver, lung, and placenta. Following cytokine receptor ligation, Jak kinases are activated and phosphorylate the cytoplasmic tails of the oligomerized receptors. The SH3:SH2 domain of Stat6 associates with tyrosine-phosphorylated IL-4 receptor and the proximal Jak kinase phosphorylates Stat6 at Y641 on the C-terminal side of the SH2 domain. Stat6 is then released from the receptor, dimerizes, and is thought to contact the basal transcription machinery by binding to p300/CBP. Thus, Stat6 mediates the IL-4 signal and is essential for the proper development of adaptive immunity.



*Immunofluorescent labelling of phosphorylated Stat6 in endothelial cells exposed to 10 ng/ml IL-4 for 1 hour.*


***Human Endothelial cells were either untreated (left column) or treated with (right column) IL-4 (10 ng/ml) for 1 hour at 37°C.*** *The top panel was probed with Stat6 (Cat. No. 611290) and the bottom panel was probed with Stat6 (pY641) (Cat. No. 611820).*

## Preparation and Storage

The monoclonal antibody was purified from tissue culture supernatant or ascites by affinity chromatography.
Store undiluted at -20°C.

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## Application Notes

**Application**

| | |
|---|---|
| Western blot | Routinely Tested |
| Immunofluorescence | Tested During Development |
| Intracellular staining (flow cytometry) | Tested During Development |

## 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.
4. Source of all serum proteins is from USDA inspected abattoirs located in the United States.

## References


Hou J, Schindler U, Henzel WJ, Ho TC, Brasseur M, McKnight SL. An interleukin-4-induced transcription factor: IL-4 Stat. *Science.* 1994; 265(5179):1701-1706. (Biology)

Mikita T, Campbell D, Wu P, Williamson K, Schindler U. Requirements for interleukin-4-induced gene expression and functional characterization of Stat6. *Mol Cell Biol.* 1996; 16(10):5811-5820.(Biology)

Quelle FW, Shimoda K, Thierfelder W, et al.. Cloning of murine Stat6 and human Stat6, Stat proteins that are tyrosine phosphorylated in responses to IL-4 and IL-3 but are not required for mitogenesis. *Mol Cell Biol.* 1995; 15(6):3336-3343.(Biology)