Technical Data Sheet

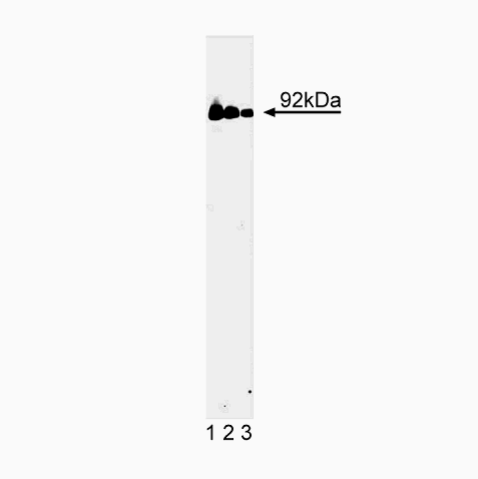
# Purified Mouse Anti-Stat3

## Product Information

| | |
|---|---|
| **Material Number:** | **610190** |
| **Size:** | 150 µg |
| **Concentration:** | 250 µg/ml |
| **Clone:** | 84/Stat3 |
| **Immunogen:** | Rat Stat3 aa. 1-175 |
| **Isotype:** | Mouse IgG1 |
| **Reactivity:** | QC Testing: Human<br>Tested in Development: Mouse, Rat, Dog, Chicken, Frog |
| **Target MW:** | 92 kDa |
| **Storage Buffer:** | Aqueous buffered solution containing BSA, glycerol, and ≤0.09% sodium azide. |

## Description

The Stat proteins function as both cytoplasmic signal transducers and activators of transcription. Stat91/84 (the two proteins are the result of alternate splicing-Stat91has an additional 38 C-terminal amino acids) and Stat113 were the first identified members of this protein family. With the discovery of additional members of the Stat family (Stats3 & 4), the nomenclature has been revised to indicate the Stat family members in the order of their discovery. Stat 91, 84, and 113 have become Stat1α, Stat1β, and Stat2, respectively. Stat3 is a 92 kDa protein that is activated as a DNA binding protein through tyrosine phosphorylation in response to treatment of cells with EGF and IL-6 but not with IFN-γ. Stat3 is widely expressed and can bind to DNA in the absence of Stat1α or Stat2. Stat3 can bind to the sis-inducible element (SIE) site from the *c-fos* promoter. The site is similar to the GAS element that is present in IFN-γ induced genes. It appears that Stat3 binds to DNA as a homodimer, but it is also capable of binding as a heterodimer with Stat1. With the isolation of Stat3 and the discovery of Stat4, it appears that the Stat family may contain many members, each with a characteristic tissue distribution and specific activating ligands.




***Western blot analysis of Stat3 on a A431 cell lysate (Human epithelial carcinoma; ATCC CRL-1555).*** *Lane 1: 1:2500, lane 2: 1:5000, lane 3: 1: 10,000 dilution of the mouse anti-Stat3 antibody.*

## Preparation and Storage

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

## Application Notes

**Application**

| | |
|---|---|
| Western blot | Routinely Tested |
| Immunoprecipitation | Tested During Development |
| Immunofluorescence | Not Recommended |
| Immunohistochemistry | Not Recommended |

**Recommended Assay Procedure:**

***Western blot:*** Please refer to http://www.bdbiosciences.com/pharmingen/protocols/Western_Blotting.shtml

**BD Biosciences**

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For country-specific contact information, visit **bdbiosciences.com/how_to_order/**

## Suggested Companion Products

| Catalog Number | Name | Size | Clone |
|---|---|---|---|
| 611447 | A431 Cell Lysate | 500 µg | (none) |
| 554002 | HRP Goat Anti-Mouse Ig | 1.0 ml | (none) |

## 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


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Hart KC, Robertson SC, Donoghue DJ. Identification of tyrosine residues in constitutively activated fibroblast growth factor receptor 3 involved in mitogenesis, Stat activation, and phosphatidylinositol 3-kinase activation. *Mol Biol Cell.* 2001; 12(4):931-942.(Biology: Immunofluorescence, Western blot)

Kirito K, Osawa M, Morita H. A functional role of Stat3 in in vivo megakaryopoiesis. *Blood.* 2002; 99(9):3220-3227.(Biology: Immunoprecipitation, Western blot)

Nielsen M, Svejgaard A, Skov S, Odum N. Interleukin-2 induces tyrosine phosphorylation and nuclear translocation of stat3 in human T lymphocytes. *Eur J Immunol.* 1994; 24(12):3082-3086.(Biology)

Zhong Z, Wen Z, Darnell JE Jr. Stat3 and Stat4: members of the family of signal transducers and activators of transcription. *Proc Natl Acad Sci U S A.* 1994; 91(11):4806-4810.(Biology)