

Anti-STAT3 Antibody Picoband™

Catalog Number: PB9511

About STAT3

The transcription factor, signal transducer and activator of transcription-3 (STAT-3) is the most pleiotropic member of the signal transducer and activator of transcription (STAT) family of transcription factors and mediates pivotal responses for the cytokine family. The mouse STAT3 gene contains 24 exons and spans 30 kb. The translation initiation codon is in exon 2, and the stop codon is in exon 24. STAT3 is mapped to 17q21. It contributes to various physiological processes. Hepatic STAT-3 signaling is thus essential for normal glucose homeostasis and may provide new therapeutic targets for diabetes mellitus.

Overview

Product Name	Anti-STAT3 Antibody Picoband™
Reactive Species	Human, Monkey, Mouse, Rat
Description	Boster Bio Anti-STAT3 Antibody Picoband™ catalog # PB9511. Tested in IHC, WB applications. This antibody reacts with Human, Monkey, Mouse, Rat.
Application	IHC, WB
Clonality	Polyclonal
Formulation	Each vial contains 5mg BSA, 0.9mg NaCl, 0.2mg Na ₂ HPO ₄ , 0.05mg NaN ₃ .
Storage Instructions	Store at -20°C for one year from date of receipt. After reconstitution, at 4°C for one month. It can also be aliquotted and stored frozen at -20°C for six months. Avoid repeated freeze-thaw cycles.
Host	Rabbit
Uniprot ID	P40763

Technical Details

Immunogen	A synthetic peptide corresponding to a sequence at the N-terminus of human STAT3, identical to the related mouse and rat sequences.
Predicted Reactive Species	Hamster
Recommended Detection Systems	Boster recommends Enhanced Chemiluminescent Kit with anti-Rabbit IgG (EK1002) for Western blot, and HRP Conjugated anti-Rabbit IgG Super Vision Assay Kit (SV0002-1) for IHC(P).
Cross Reactivity	No cross-reactivity with other proteins
Isotype	Rabbit IgG
Form	Lyophilized
Concentration	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml.

Purification	Immunogen affinity purified.
Suggested Dilutions	Dilute the sample so that the expected range of concentrations fall within the detection range of this kit. If the expected range of concentration is unknown, a pilot test should be conducted to decide the optimal dilution ratio for your samples. Some PubMed article(s) citing the expression level of this target are as follows: Boster Bio's internal QC testing used: Western blot, 0.1-0.5 ug/ml, Human, Monkey, Mouse, Rat Immunohistochemistry(Paraffin-embedded Section), 2-5 ug/ml, Human

Anti-STAT3 Antibody Picoband™ (PB9511) Images

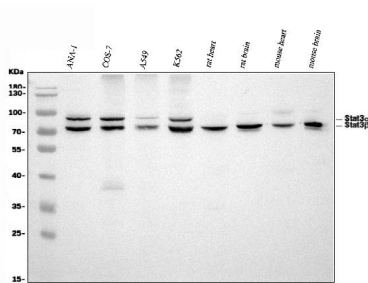


Figure 1. Western blot analysis of STAT3 using anti-STAT3 antibody (PB9511).

Electrophoresis was performed on a 5-20% SDS-PAGE gel at 70V (Stacking gel) / 90V (Resolving gel) for 2-3 hours. The sample well of each lane was loaded with 30 ug of sample under reducing conditions.

Lane 1: mouse ANA-1 whole cell lysates,
Lane 2: monkey COS-7 whole cell lysates,
Lane 3: human A549 whole cell lysates,
Lane 4: human K562 whole cell lysates,
Lane 5: rat heart tissue lysates,
Lane 6: rat brain tissue lysates,
Lane 7: mouse heart tissue lysates,
Lane 8: mouse brain tissue lysates.

After electrophoresis, proteins were transferred to a nitrocellulose membrane at 150 mA for 50-90 minutes. Blocked the membrane with 5% non-fat milk/TBS for 1.5 hour at RT. The membrane was incubated with rabbit anti-STAT3 antigen affinity purified polyclonal antibody (Catalog # PB9511) at 0.5 ug/mL overnight at 4°C, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-rabbit IgG-HRP secondary antibody at a dilution of 1:5000 for 1.5 hour at RT. The signal is developed using an Enhanced Chemiluminescent detection (ECL) kit (Catalog # EK1002) with Tanon 5200 system. Specific bands were detected for STAT3α at approximately 86 kDa and for STAT3β at approximately 83 kDa. The expected band size for STAT3 is at 79 kDa.

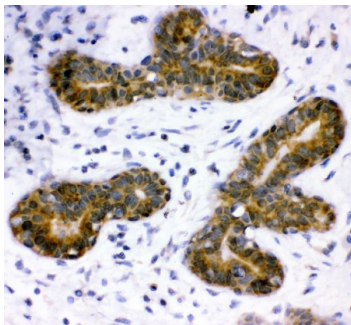


Figure 2. IHC analysis of STAT3 using anti-STAT3 antibody (PB9511).

STAT3 was detected in a paraffin-embedded section of human breast cancer tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 ug/ml rabbit anti-STAT3 Antibody (PB9511) overnight at 4°C. Peroxidase Conjugated Goat Anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using HRP Conjugated Rabbit IgG Super Vision Assay Kit (Catalog # SV0002) with DAB as the chromogen.

18 Publications Citing This Product

1. PubMed ID: 30747218, Zhang T, Ma L, Wu P, Li W, Li T, Gu R, Dan X, Li Z, Fan X, Xiao Z. Gallic acid has anticancer activity and enhances the anticancer effects of cisplatin in non-small cell lung cancer A549 cells via the JAK/STAT3 signaling pathway. *Oncol Rep.* 2019 Mar;41(3):1779-1788. doi:10.3892/or.2019.6976. Epub 2019 Jan 22. PMID:30747218.

2. PubMed ID: 33152901, He J, Zhang W, Di T, Meng J, Qi Y, Li G, Zhang Y, Su H, Yan W. Water extract of sporoderm-broken spores of *Ganoderma lucidum* enhanced pd-l1 antibody efficiency through downregulation and relieved complications of pd-l1 monoclonal antibody. *Biomed Pharmacother.* 2020

3. PubMed ID: 33542641, Zhang Q,Duan HX,Li RL,Sun JY,Liu J,Peng W,Wu CJ,Gao YX. Inducing Apoptosis and Suppressing Inflammatory Reactions in Synovial Fibroblasts are Two Important Ways for Guizhi-Shaoyao-Zhimu Decoction Against Rheumatoid Arthritis. J Inflamm Res.2021 Jan 26;14:

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