BOSTER BIOLOGICAL TECHNOLOGY
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Anti-NFIB/NF1B2 Antibody Picoband® (monoclonal, 4D6E4)

Catalog Number: M01537-1

About NFIB

Nuclear factor 1 B-type is a protein that in humans is encoded by the NFIB gene. The NFIB gene is a part of the NFI gene complex that includes three other genes (NFIA, NFIC and NFIX). The NFIB gene is a protein coding gene that also serves as a transcription factor. This gene is essential in embryonic development and it works together with its gene complex to initiate tissue differentiation in the fetus. Through knockout experiments, researchers found that mice without the NFIB gene have severely underdeveloped lungs. This mutation does not seem to cause spontaneous abortions because in utero the fetus does not use its lungs for respiration. However, this becomes lethal once the fetus is born and has to take its first breath. It is thought that NFIB plays a role in down regulating the transcription factors TGF-beta1 and Shh in normal gestation because they remained high in knockout experiments. The absence of NFIB also leads to insufficient amounts of surfactant being produced which is one reason why the mice cannot breathe once it is born. The knockout experiments demonstrated that NFIB has a significant role in fore-brain development. NFIB is typically found in pontine nuclei of the CNS, the cerebral cortex and the white matter of the brain and without NFIB these areas are dramatically affected.

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Overview

Product Name	Anti-NFIB/NF1B2 Antibody Picoband® (monoclonal, 4D6E4)
Reactive Species	Human, Mouse, Rat
Description	Boster Bio Anti-NFIB/NF1B2 Antibody Picoband® (monoclonal, 4D6E4) catalog # M01537-1. Tested in Flow Cytometry, IF, ICC, WB applications. This antibody reacts with Human, Mouse, Rat. The brand Picoband indicates this is a premium antibody that guarantees superior quality, high affinity, and strong signals with minimal background in Western blot applications. Only our best-performing antibodies are designated as Picoband, ensuring unmatched performance.
Application	Flow Cytometry, IF, ICC, WB
Clonality	Monoclonal 4D6E4
Formulation	Each vial contains 4 mg Trehalose, 0.9 mg NaCl and 0.2 mg Na2HPO4.
Storage Instructions	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 freezing and thawing.
Host	Mouse
Uniprot ID	O00712

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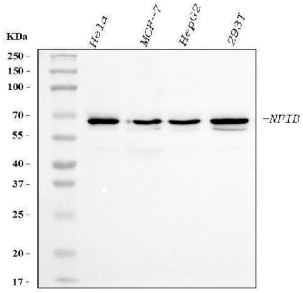
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Technical Details

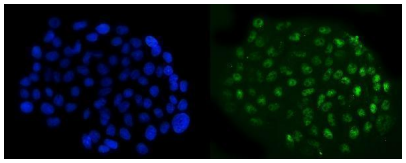
Immunogen	A synthetic peptide corresponding to a sequence in the middle region of human NFIB/NF1B2, identical to the related mouse and rat sequences.
Recommended Detection Systems	Boster recommends Enhanced Chemiluminescent Kit with anti-Mouse IgG (EK1001) for Western blot, and HRP Conjugated anti-Mouse IgG Super Vision Assay Kit (SV0001-1) for ICC.
Cross Reactivity	No cross-reactivity with other proteins.
Isotype	Mouse IgG2b
Form	Lyophilized
Concentration	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml.
Purification	Immunogen affinity purified.
Suggested Dilutions	Western blot, 0.25-0.5 ug/ml, Human Immunocytochemistry/Immunofluorescence, 5 ug/ml, Human Flow Cytometry (Fixed), 1-3 ug/1x10^6 cells, Human, Mouse, Rat Note: For flow cytometry (FCM), suitable for fixed cells only. Not suitable for FACS or surface flow cytometry using live cells.

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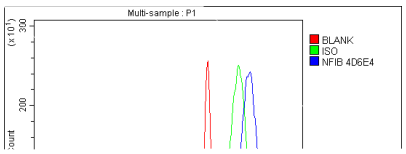
Anti-NFIB/NF1B2 Antibody Picoband® (monoclonal, 4D6E4) (M01537-1) Images



Western blot analysis of NFIB/NF1B2 using anti-NFIB/NF1B2 antibody (M01537-1). 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: human Hela whole cell lysates, Lane 2: human MCF-7 whole cell lysates, Lane 3: human HepG2 whole cell lysates, Lane 4: human 293T whole cell 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 mouse anti-NFIB/NF1B2 antigen affinity purified monoclonal antibody (Catalog # M01537-1) 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-mouse IgG-HRP secondary antibody at a dilution of 1:10000 for 1.5 hour at RT. The signal is developed using an Enhanced Chemiluminescent detection (ECL) kit (Catalog # EK1001) with Tanon 5200 system. A specific band was detected for NFIB/NF1B2 at approximately 68 kDa. The expected band size for NFIB/NF1B2 is at 68 kDa.



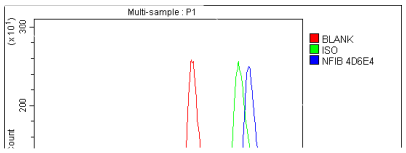
IF analysis of NFIB/NF1B2 using anti-NFIB/NF1B2 antibody (M01537-1). NFIB/NF1B2 was detected in an immunocytochemical section of A431 cells. Enzyme antigen retrieval was performed using IHC enzyme antigen retrieval reagent (AR0022) for 15 mins. The cells were blocked with 10% goat serum. And then incubated with 5 ug/mL mouse anti-NFIB/NF1B2 Antibody (M01537-1) overnight at 4°C. DyLight®488 Conjugated Goat Anti-Mouse IgG (BA1126) was used as secondary antibody at 1:100 dilution and incubated for 30 minutes at 37°C. The section was counterstained with DAPI. Visualize using a fluorescence microscope and filter sets appropriate for the label used.



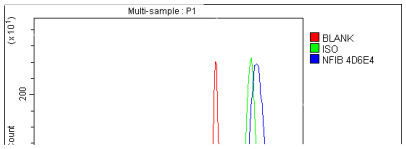
Flow Cytometry analysis of A431 cells using anti-NFIB/NF1B2 antibody (M01537-1). Overlay histogram showing A431 cells stained with M01537-1 (Blue line). To facilitate intracellular staining, cells were fixed with 4% paraformaldehyde and permeabilized with permeabilization buffer. The cells were blocked with 10% normal goat serum. And then incubated with mouse anti-NFIB/NF1B2 Antibody (M01537-1, 1 ug/1x106 cells) for 30 min at 20°C. DyLight®488 conjugated goat anti-mouse IgG (BA1126, 5-10 ug/1x106 cells) was used as secondary antibody for 30 minutes at 20°C. Isotype control antibody (Green line) was mouse IgG (1 ug/1x106) used under the same conditions. Unlabelled sample without incubation with primary antibody and secondary antibody (Red line) was used as a blank control.

Flow Cytometry analysis of C6 cells using anti-NFIB/NF1B2

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antibody (M01537-1). Overlay histogram showing C6 cells stained with M01537-1 (Blue line). To facilitate intracellular staining, cells were fixed with 4% paraformaldehyde and permeabilized with permeabilization buffer. The cells were blocked with 10% normal goat serum. And then incubated with mouse anti-NFIB/NF1B2 Antibody (M01537-1, 1 ug/1x106 cells) for 30 min at 20°C. DyLight®488 conjugated goat anti-mouse IgG (BA1126, 5-10 ug/1x106 cells) was used as secondary antibody for 30 minutes at 20°C. Isotype control antibody (Green line) was mouse IgG (1 ug/1x106) used under the same conditions. Unlabelled sample without incubation with primary antibody and secondary antibody (Red line) was used as a blank control.



Flow Cytometry analysis of Neuro-2a cells using anti-NFIB/NF1B2 antibody (M01537-1). Overlay histogram showing Neuro-2a cells stained with M01537-1 (Blue line). To facilitate intracellular staining, cells were fixed with 4% paraformaldehyde and permeabilized with permeabilization buffer. The cells were blocked with 10% normal goat serum. And then incubated with mouse anti-NFIB/NF1B2 Antibody (M01537-1, 1 ug/1x106 cells) for 30 min at 20°C. DyLight®488 conjugated goat anti-mouse IgG (BA1126, 5-10 ug/1x106 cells) was used as secondary antibody for 30 minutes at 20°C. Isotype control antibody (Green line) was mouse IgG (1 ug/1x106) used under the same conditions. Unlabelled sample without incubation with primary antibody and secondary antibody (Red line) was used as a blank control.

Anti-NFIB/NF1B2 Antibody (monoclonal, 4D6E4)

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