BOSTER BIOLOGICAL TECHNOLOGY
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Anti-EIF2AK4 Antibody Picoband®

Catalog Number: A01172-2

About EIF2AK4

EIF2AK4 (Eukaryotic Translation Initiation Factor 2-Alpha Kinase 4), also called GCN2, is an enzyme that in humans is encoded by the EIF2AK4 gene. EIF2AK4 belongs to a family of kinases that phosphorylate the alpha subunit of eukaryotic translation initiation factor-2 to downregulate protein synthesis in response to varied cellular stresses. Hartz (2005) mapped the EIF2AK4 gene to chromosome 15q15.1 based on an alignment of the EIF2AK4 sequence with the genomic sequence. Berlanga et al. (1999) demonstrated that Gcn2 immunopurified from mouse liver extracts could phosphorylate rabbit Eif2 in vitro. Serum starvation increased the level of phosphorylated EIF2-alpha more than 2-fold in human embryonic kidney cells transfected with mouse Eif2ak4. Costa-Mattioli et al. (2005) reported a unique feature of hippocampal slices from Gcn2-null mice: in CA1, a single 100-Hz train induced a strong and sustained long-term potentiation (late LTP or L-LTP), which was dependent on transcription and translation.

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Overview

Product Name	Anti-EIF2AK4 Antibody Picoband®
Reactive Species	Human, Monkey, Mouse
Description	Boster Bio Anti-EIF2AK4 Antibody Picoband® catalog # A01172-2. Tested in ELISA, Flow Cytometry, IHC, WB applications. This antibody reacts with Human, Monkey, Mouse. 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	ELISA, Flow Cytometry, IHC, WB
Clonality	Polyclonal
Formulation	Each vial contains 4mg Trehalose, 0.9mg NaCl, 0.2mg Na2HPO4, 0.01mg NaN3.
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	Q9P2K8

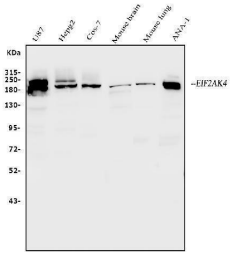
Technical Details

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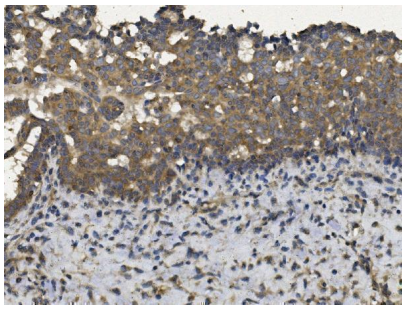
Immunogen	E.coli-derived human EIF2AK4 recombinant protein (Position: Q23-K440).
Recommended Detection Systems	Boster recommends Enhanced Chemiluminescent Kit with anti-Rabbit IgG (EK1002) for Western blot, and HRP Conjugated anti-Rabbit IgG Super Vision Assay Kit (SV0002-1) for IHC(P).
Cross Reactivity	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	Western blot, 0.1-0.25ug/ml, Human, Mouse, Monkey Immunohistochemistry (Paraffin-embedded Section), 2-5ug/ml, Human Flow Cytometry (Fixed), 1-3ug/1x10^6 cells, Human ELISA, 0.1-0.5ug/ml, - 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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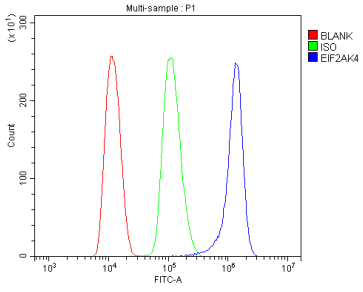
Anti-EIF2AK4 Antibody Picoband® (A01172-2) Images



Western blot analysis of EIF2AK4 using anti-EIF2AK4 antibody (A01172-2). 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 50ug of sample under reducing conditions. Lane 1: human U87 whole cell lysates, Lane 2: human HepG2 whole cell lysates, Lane 3: monkey COS-7 whole cell lysates, Lane 4: mouse brain tissue lysates, Lane 5: mouse lung tissue lysates, Lane 6: mouse ANA-1 whole cell lysates. After Electrophoresis, proteins were transferred to a Nitrocellulose membrane at 150mA 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-EIF2AK4 antigen affinity purified polyclonal antibody (Catalog # A01172-2) at 0.25 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 1:10000 for 1.5 hour at RT. The signal is developed using an Enhanced Chemiluminescent detection (ECL) kit (Catalog # EK1002) with Tanon 5200 system. A specific band was detected for EIF2AK4 at approximately 180-200KD. The expected band size for EIF2AK4 is at 187KD.



IHC analysis of EIF2AK4 using anti-EIF2AK4 antibody (A01172-2). EIF2AK4 was detected in paraffin-embedded section of human mammary cancer tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2ug/ml rabbit anti-EIF2AK4 Antibody (A01172-2) overnight at 4°C. Biotinylated goat anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using Strepavidin-Biotin-Complex (SABC) (Catalog # SA1022) with DAB as the chromogen.



Flow Cytometry analysis of THP-1 cells using anti-EIF2AK4 antibody (A01172-2).Overlay histogram showing THP-1 cells stained with A01172-2 (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 rabbit anti-EIF2AK4 Antibody (A01172-2,1ug/1x106 cells) for 30 min at 20°C. DyLight®488 conjugated goat anti-rabbit IgG (BA1127, 5-10ug/1x106 cells) was used as secondary antibody for 30 minutes at 20°C. Isotype control antibody (Green line) was rabbit IgG (1ug/1x106) used under the same conditions. Unlabelled sample without incubation with primary antibody and secondary antibody (Red line) was used as a blank control.

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