BOSTER BIOLOGICAL TECHNOLOGY
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Anti-NAK/TBK1 Antibody Picoband®

Catalog Number: A00261-1

About TBK1

Serine/threonine-protein kinase TBK1, also called TANK-binding kinase 1 or NF-kappa-B-activating kinase is an enzyme that in humans is encoded by the TBK1 gene. The gene was assigned to human chromosome 12q14.2. Serine/threonine kinase plays an essential role in regulating inflammatory responses to foreign agents. TBK1 and NF-kappa-B signaling are essential in KRAS mutant tumors, and established a general approach for the rational identification of codependent pathways in cancer.

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Overview

Product Name	Anti-NAK/TBK1 Antibody Picoband®
Reactive Species	Human, Mouse, Rat
Description	Boster Bio Anti-NAK/TBK1 Antibody Picoband® catalog # A00261-1. Tested in ELISA, IHC, 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	ELISA, IHC, WB
Clonality	Polyclonal
Formulation	Each vial contains 4 mg Trehalose, 0.9 mg NaCl, 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	Rabbit
Uniprot ID	Q9UHD2

Technical Details

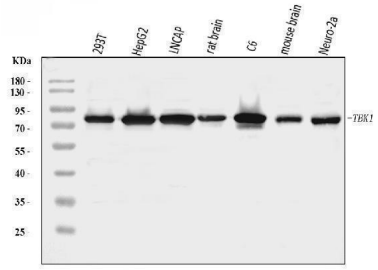
Immunogen	E.coli-derived human NAK/TBK1 recombinant protein (Position: M1-L729).
Recommended Detection Systems	Boster recommends Enhanced Chemiluminescent Kit with anti-Rabbit IgG (EK1002) for Western blot, and HRP Conjugated anti-Rabbit IgG Super Vision Assay Kit (SV0002-1) for IHC(P).

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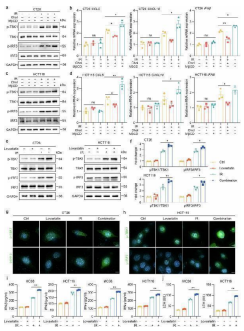
Cross Reactivity	No cross-reactivity with other proteins.
Isotype	Rabbit IgG
Form	Lyophilized
Concentration	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml.
Purification	Immunogen affinity purified.
Suggested Dilutions	Western blot, 0.1-0.25 ug/ml, Human, Mouse, Rat Immunohistochemistry(Paraffin-embedded Section), 2-5 ug/ml, Mouse ELISA, 0.1-0.5 ug/ml, -

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Anti-NAK/TBK1 Antibody Picoband® (A00261-1) Images



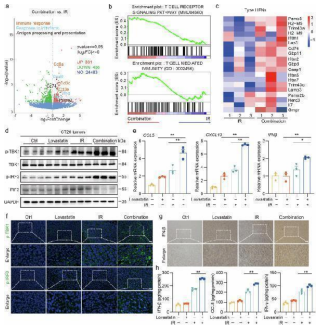
Western blot analysis of NAK/TBK1 using anti-NAK/TBK1 antibody (A00261-1). Electrophoresis was performed on a 5-20% SDS-PAGE gel at 70V (Stacking gel) / 90V (Resolving gel) for 2-3 hours. The sample well of each lane was loaded with 30 ug of sample under reducing conditions. Lane 1: human 293T whole cell lysates, Lane 2: human HepG2 whole cell lysates, Lane 3: human LNCAP whole cell lysates, Lane 4: rat brain tissue lysates, Lane 5: rat C6 whole cell lysates, Lane 7: mouse brain tissue lysates, Lane 8: mouse Neuro-2a 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 rabbit anti-NAK/TBK1 antigen affinity purified polyclonal antibody (Catalog # A00261-1) 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 1:5000 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 NAK/TBK1 at approximately 84 kDa. The expected band size for NAK/TBK1 is at 84 kDa.



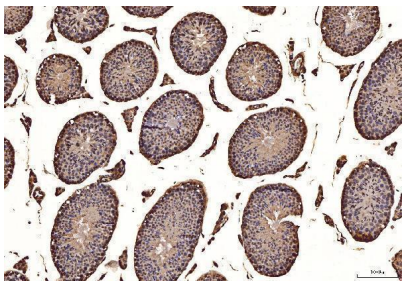
Cholesterol impairs radiotherapy-induced cGAS–STING activation and lovastatin rescues this activation in vitro. a The expression of p-TBK1, p-IRF3, TBK1 and IRF3 protein extracted from CT26 cells with different treatments (ctrl, cholesterol 50 uM, MbetaCD 2 mM, IR 6 Gy, IR + cholesterol and IR + MbetaCD) and detected by western blot. b The relative expression of CCL5, CXCL10 and IFNbeta mRNA extracted from CT26 cells was detected by qPCR. c The expression of p-TBK1, p-IRF3, TBK1 and IRF3 protein was extracted from HCT116 cells with different treatments (ctrl, cholesterol 50 uM, MbetaCD 2 mM, IR 6 Gy, IR + cholesterol and IR + MbetaCD) and detected by western blot. d The relative expression of CCL5, CXCL10 and IFNbeta mRNA extracted from HCT116 cells was detected by qPCR. e , f The expression of p-TBK1, p-IRF3, TBK1 and IRF3 protein extracted from CT26 cells and HCT116 cells with different treatments (ctrl, lovastatin 10 uM, IR 6 Gy and IR + lovastatin) was detected by western blot (e) and quantitative anslysis (f). g , h , Confocal fluorescence microscopy was conducted on CT26 (g) and HCT116 (h) cells with different treatments. The cells were labeled with DAPI (blue) and p-TBK1 (green) or p-IRF3 (green). i The levels of IFN-beta and IFN-gamma in the supernatant of co-cultures of MC38-OVA cells and OT-1 mouse spleen cells as well as HCT116 cells and human PBMCs were measured using ELISA. The ratio of immune cells to tumor cells is 10:1. The co-cultures were maintained for 36 h. j LDH release assay was performed using the supernatants from co-cultures of MC38-OVA cells and OT-1 mouse spleen cells as well as HCT116 cells and human PBMCs. The ratio of

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immune cells to tumor cells is 10:1. The co-cultures were maintained for 36 h. Scale bar, 5 um. ** P < 0.01; * P < 0.05; ns, not significant. Index in PubMed under a CC BY license. PMID: 40355720



HMGCR inhibition combined with radiotherapy significantly activates the cGAS–STING pathway. a , A volcano plot of differentially expressed genes between the combination group and the radiotherapy group. b GSEA of the TCR signaling pathway (KEGG: MMU04660) and T-cell-mediated immunity (GO: 0002456) between the combination therapy group and the radiotherapy group. c A heatmap of log 2 FC to depict the gene expression associated with type I IFN. d The expression of p-TBK1, p-IRF3, TBK1 and IRF3 protein extracted from CT26 tumors was detected by western blot. e , The relative expression of CCL5, CXCL10 and IFNbeta mRNA extracted from CT26 tumors was detected by qPCR. f , Representative IF images of p-TBK1 and p-IRF3. g , Representative IHC images of IFN-beta. h , The levels of IFN-beta, CCL5 and IFN-gamma protein in tumor tissues were measured via ELISA. Scale bar, 50 um. ** P < 0.01; * P < 0.05. Index in PubMed under a CC BY license. PMID: 40355720



IHC analysis of NAK/TBK1 using anti-NAK/TBK1 antibody (A00261-1). NAK/TBK1 was detected in a paraffin-embedded section of mouse testis 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-NAK/TBK1 Antibody (A00261-1) 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.

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