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Anti-Cyclin-dependent kinase 9 Cdk9 Antibody

Catalog Number: A00794

About CDK9

CDK9 (PITALRE) (also known as cyclin-dependent kinase 9, Serine/threonine-protein kinase PITALRE, C-2K and Cell division cycle 2-like protein kinase 4) is a member of the cyclin-dependent protein kinase (CDK) family. CDK family members are highly similar to the gene products of S. cerevisiae cdc28, and S. pombe cdc2, and known as important cell cycle regulators. CDK9 (PITALRE) interacts with a conserved domain in the TRAF-C region of the tumor necrosis factor signal transducer TRAF2. This kinase also was found to be a component of the multiprotein complex TAK/P-TEFb, which is an elongation factor for RNA polymerase II-directed transcription and functions by phosphorylating the C-terminal domain of the largest subunit of RNA polymerase II. This protein forms a complex with and is regulated by its regulatory subunit cyclin T or cyclin K. HIV-1 Tat protein was found to interact with this protein and cyclin T, which suggested a possible involvement of this protein in AIDS. Tat stimulates human HIV-1 viral transcription elongation. This suggests that cyclin T1/cdk9(PITALRE) is one of the HIV-1 required host cellular cofactors generated during T cell activation. Cyclin T1/cdk9(PITALRE) is shown to interact with Tat to restore Tat activation in HeLa nuclear extracts depleted of P-TEFb. The cdk9(PITALRE) activity and cyclin T1 are essential for activation of transcription when tethered to the heterologous Rev response element RNA via the regulator of expression of virion Rev. CDK9 (PITALRE) is a ubiquitously expressed nuclear protein.

Overview

Product Name	Anti-Cyclin-dependent kinase 9 Cdk9 Antibody
Reactive Species	Human, Mouse
Description	Boster Bio Anti-Cyclin-dependent kinase 9 Cdk9 Antibody (Catalog # A00794). Tested in ELISA, IHC, IP, WB applications. This antibody reacts with Human, Mouse.
Application	ELISA, IP, IHC, WB
Clonality	Polyclonal
Formulation	0.02 M Potassium Phosphate, 0.15 M Sodium Chloride, pH 7.2, 0.01% (w/v) Sodium Azide
Storage Instructions	Store vial at -20°C prior to opening. Aliquot contents and freeze at -20°C or below for extended storage. Avoid cycles of freezing and thawing. Centrifuge product if not completely clear after standing at room temperature. This product is stable for several weeks at 4°C as an undiluted liquid. Dilute only prior to immediate use. Expiration date is one (1) year from date of opening. (Ship on dry ice.)
Host	Rabbit
Uniprot ID	P50750

Technical Details

Immunogen	Multiple synthetic peptides corresponding to C-terminal and N-terminal domains of the protein coded by the human gene cdk9 (PITALRE).
Predicted Reactive Species	Bovine, Mammalian

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Cross Reactivity	No cross reactivity with other proteins.
Isotype	Antiserum
Form	Liquid (sterile filtered)
Concentration	75 mg/mL by Refractometry
Purification	This product was prepared from monospecific antiserum by delipidation and defibrination. Antiserum will specifically react with a 43 kDa cdk9 (PITALRE) protein from human, rat and mouse tissue. No reaction was observed against other related cyclin dependent kinases. Cross-reactivity with cdk9 (PITALRE) from other species may also occur. The murine cDNA is shown to be 98% identical with human. For immunohistochemistry use paraffin embedded tissue.
Suggested Dilutions	ELISA: 1:10,000 - 1:50,000 IHC: 1:200 - 1:1,000 IP: 1:100 WB: 1:500 - 1:3,000 This antibody has been tested for use in ELISA, immunoprecipitation, immunocytochemistry, and by western blot. Specific conditions for reactivity should be optimized by the end user. Expect a band at approximately 43 kDa corresponding to CDK9 (PITALRE) by western blotting in the appropriate cell lysate or extract. HeLa cells may be used as a positive control.

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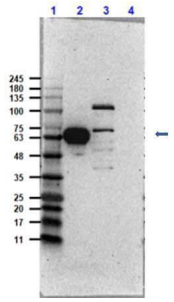
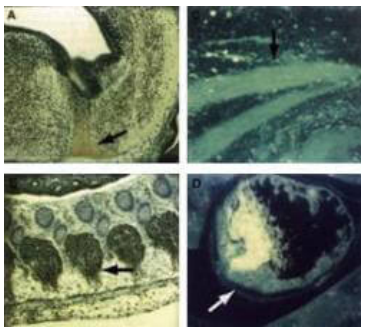
Anti-Cyclin-dependent kinase 9 Cdk9 Antibody (A00794) Images



Western Blot Results of Anti-cdk9 (PITALRE) Antibody. Lane 1: Opal Prestined Molecular Weight Marker . Lane 2: Human Kidney Lysate [5µg] [+]. Lane 3: PC3 Lysate [20µg] [+]. Lane 4: Null [-]. Primary Antibody: Anti-cdk9 at 1:1000 overnight at 2-8°C. Secondary Antibody: Goat Anti-Rabbit HRP mx10 at 1:70,000 for 30 mins RT. Blocking: 5% BLOTTO, 3%BSA in 1XTBST for 1 hr at RT. Expected MW: ~42-55kDa.



Immunocytochemical staining of mouse tissue using anti-cdk9 (PITALRE) antiserum. The staining shows the location of mcdk9/PITALRE protein in developing mouse tissue. Arrows indicate areas of high expression. Panel A: Peroxidase-DAB immunostaining of mcdk9/PITALRE protein in the developing mouse brain in the differentiated region of the medulla oblongata just below the fourth ventricle. Similar staining is shown in Panel B in the dorsal root ganglia. Panel C: Fluorescein immunofluorescence of mcdk9IPITALRE in skeletal muscle. Similar staining is shown in Panel D in cardiac muscle. Other detection systems should yield similar results. Sections from each specimen were cut at 5-7 µm, mounted on glass and dried overnight at 37°C. All sections then were deparaffinized in xylene, rehydrated through a graded alcohol series and washed in phosphate-buffered saline (PBS). PBS was used for all subsequent washes and for antiserum dilution. Tissue sections were quenched sequentially in 0.5% hydrogen peroxide and blocked with diluted 10% normal goat anti-rabbit serum. Slides were incubated at 20° C for 1 h with rabbit anti-cdk9 (1:500) dilution, washed, and then reacted with diluted goat anti-rabbit biotinylated antibody for 30 min. All the slides were then reacted with streptavidin-peroxidase conjugate for 30 min at 20° C. Diaminobenzidine was used as the final chromogen and hematoxylin was used as the nuclear counterstain. Negative controls for each tissue section were prepared by substituting the primary antiserum with pre-immune serum.

Boster anti cdk9 antibody (100-401-167 1:1500) was used for Western blot analysis of 1) PC3 and 2) DU145 prostate cancer cells (50ug per lane). Bands at the expected MW of 55 and 42 Kda were detected. Personal communication Flavio Rizzolio, Temple University

Submit a product review to Biocompare.com

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