

Datasheet for 100-401-167**CDK9 Antibody****Overview**

Description:	Anti-CDK9 (RABBIT) Antibody - 100-401-167
Item No.:	100-401-167
Size:	100 µL
Applications:	ELISA, IHC, IP, WB
Reactivity:	Human, Mouse
Host Species:	Rabbit

Product Details

Background:	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 <i>S. cerevisiae</i> cdc28, and <i>S. pombe</i> 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.
Synonyms:	rabbit anti-Cdk9 Antibody, Cell division cycle 2 like protein kinase 4 antibody, Cell division protein kinase 9 antibody, rabbit anti-Cyclin dependent kinase 9 antibody, PITALRE antibody, Serine threonine protein kinase PITALRE antibody, TAK antibody, cdk
Host Species:	Rabbit
Clonality:	Polyclonal
Format:	Antiserum

Target Details

Gene Name:	CDK9
Reactivity:	Human, Mouse
Immunogen Type:	Conjugated Peptide
Immunogen:	Multiple synthetic peptides corresponding to C-terminal and N-terminal domains of the protein coded by the human gene cdk9 (PITALRE).
Purity/Specificity:	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.
Relevant Links:	• NCBI - 4502747 • UniProtKB - P50750 • GeneID - 1025

Application Details

Tested Applications:	ELISA, IHC, IP, WB
Application Note:	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.
Assay Dilutions:	All assays should be optimized by the user. Recommended dilutions (if any) may be listed below.
ELISA:	1:10,000 - 1:50,000
IHC:	1:200 - 1:1,000
IP:	1:100
WB:	1:500 - 1:3,000

Formulation

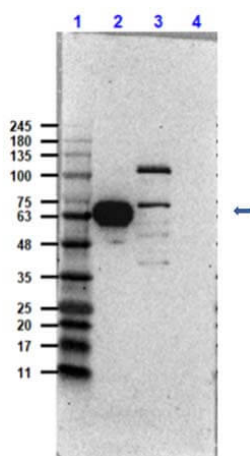
Physical State:	Liquid (sterile filtered)
Concentration:	75 mg/mL by Refractometry

Buffer:	0.02 M Potassium Phosphate, 0.15 M Sodium Chloride, pH 7.2
Preservative:	0.01% (w/v) Sodium Azide
Stabilizer:	None

Shipping & Handling

Shipping Condition:	Dry Ice
Storage Condition:	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:	Expiration date is one (1) year from date of receipt.

Images



Western Blot

Western Blot Results of Anti-cdk9 (PITALRE) Antibody.
 Lane 1: Opal Prestined Molecular Weight Marker (p/n MB-210-0500).

Lane 2: Human Kidney Lysate [5µg] [+].

Lane 3: PC3 Lysate [20µg] [+].

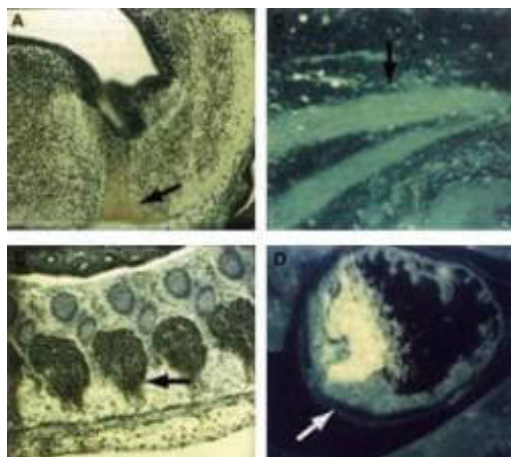
Lane 4: Null [-].

Primary Antibody: Anti-cdk9 at 1:1000 overnight at 2-8°C.

Secondary Antibody: Goat Anti-Rabbit HRP mx10 (p/n 611-103-122) at 1:70,000 for 30 mins RT.

Blocking: 5% BLOTTO, 3%BSA in 1XTBST for 1 hr at RT.

Expected MW: ~42-55kDa.



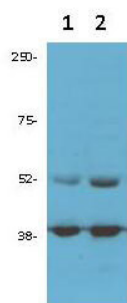
Immunocytochemistry

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 μ m, 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.

Western Blot

Rockland 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



Disclaimer

This product is for research use only and is not intended for therapeutic or diagnostic applications. Please contact a technical service representative for more information. All products of animal origin manufactured by Rockland Immunochemicals are derived from starting materials of North American origin. Collection was performed in United States Department of Agriculture (USDA) inspected facilities and all materials have been inspected and certified to be free of disease and suitable for exportation. All properties listed are typical characteristics and are not specifications. All suggestions and data are offered in good faith but without guarantee as conditions and methods of use of our products are beyond our control. All claims must be made within 30 days following the date of delivery. The prospective user must determine the suitability of our materials before adopting them on a commercial scale. Suggested uses of our products are not recommendations to use our products in violation of any patent or as a license under any patent of Rockland Immunochemicals, Inc. If you require a commercial license to use this material and do not have one, then return this material, unopened to: Rockland Inc., P.O. BOX 5199, Limerick, Pennsylvania, USA.