

Cdk9 (F-6): sc-376646



The Power to Question

BACKGROUND

A family of proteins designated cyclin dependent kinases (Cdks) are critical regulators of cell cycle progression. Cdk family members, including Cdc2 p34, Cdk1-9, PISSLRE, KKIALRE, PITSLRE and PCTAIRE 1-3 are constitutively expressed throughout the cell cycle. Cdc2 p34 activity peaks during mitosis and Cdk2 activity rises in late G₁ or early S phase. Cdk4 and Cdk6 are critically involved in G₁ to S phase progression. The functions of Cdk3, Cdk5b, PISSLRE, KKIALRE and PCTAIRE 1-3 are less well defined. Cdk9 (also designated PITALRE) has been shown to specifically phosphorylate the retinoblastoma protein. The more recently cloned *Drosophila* protein, P-TEFb, is thought to be the homolog of mammalian PITALRE. P-TEFb has been shown to be required for HIV Tat transcriptional activation.

CHROMOSOMAL LOCATION

Genetic locus: CDK9 (human) mapping to 9q34.11; Cdk9 (mouse) mapping to 2 B.

SOURCE

Cdk9 (F-6) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 343-372 at the C-terminus of Cdk9 of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-376646 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

APPLICATIONS

Cdk9 (F-6) is recommended for detection of Cdk9 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Cdk9 (F-6) is also recommended for detection of Cdk9 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for Cdk9 siRNA (h): sc-29268, Cdk9 siRNA (m): sc-35050, Cdk9 shRNA Plasmid (h): sc-29268-SH, Cdk9 shRNA Plasmid (m): sc-35050-SH, Cdk9 shRNA (h) Lentiviral Particles: sc-29268-V and Cdk9 shRNA (m) Lentiviral Particles: sc-35050-V.

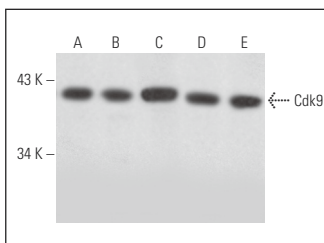
Molecular Weight of Cdk9: 43 kDa.

Positive Controls: KNRK nuclear extract: sc-2141, HeLa nuclear extract: sc-2120 or A-431 whole cell lysate: sc-2201.

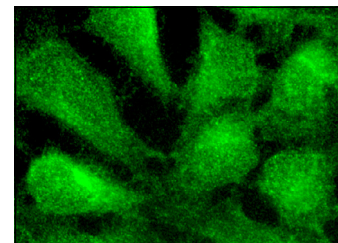
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



Cdk9 (F-6): sc-376646. Western blot analysis of Cdk9 expression in HeLa (A) and KNRK (B) nuclear extracts and Jurkat (C), A-431 (D) and HEK293 (E) whole cell lysates.



Cdk9 (F-6): sc-376646. Immunofluorescence staining of methanol-fixed HeLa cells showing nuclear and cytoplasmic localization.

SELECT PRODUCT CITATIONS

- Huang, F., et al. 2021. Reversible phosphorylation of cyclin T1 promotes assembly and stability of P-TEFb. *Elife* 10: e68473.
- Huang, F., et al. 2022. P-TEFb is degraded by Siah1/2 in quiescent cells. *Nucleic Acids Res.* 50: 5000-5013.
- Scagnoli, F., et al. 2023. A new insight into MYC action: control of RNA polymerase II methylation and transcription termination. *Biomedicines* 11: 412.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.



See **Cdk9 (D-7): sc-13130** for Cdk9 antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.