Cdk7 (MO-1): sc-56284

**BACKGROUND**

Progression through the cell cycle requires activation of a series of enzymes designated cyclin dependent kinases (Cdks). The monomeric catalytic subunit Cdk2, a critical enzyme for initiation of cell cycle progression, is completely inactive. Partial activation is achieved by the binding of regulatory cyclins such as cyclin D1, while full activation requires additional phosphorylation at Thr 160. The enzyme responsible for the phosphorylation of Cdk2 on Thr 160 and also of Cdc2 p34 on Thr 161, designated Cdk-activating kinase (CAK), has been partially purified and shown to be comprised of a catalytic subunit and a regulatory subunit. The catalytic subunit, designated Cdk7, has been identified as the mammalian homolog of MO15, a protein kinase demonstrated in starfish and Xenopus. The regulatory subunit is a novel cyclin (cyclin H) and is required for activation of Cdk7. Like other Cdks, Cdk7 contains a conserved threonine residue required for full activity; mutation of this residue severely reduces CAK activity.

**CHROMOSOMAL LOCATION**

Genetic locus: CDK7 (human) mapping to 5q13.2; Cdk7 (mouse) mapping to 13 D1.

**SOURCE**

Cdk7 (MO-1) is a mouse monoclonal antibody raised against the C-terminus of Cdk7 of human origin.

**PRODUCT**

Each vial contains 200 µg IgG₂κ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Cdk7 (MO-1) is available conjugated to either phycoerythrin (sc-56284 PE) or fluorescein (sc-56284 FITC), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM.

**STORAGE**

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

**APPLICATIONS**

Cdk7 (MO-1) is recommended for detection of Cdk7 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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 flow cytometry (1 µg per 1 x 10⁶ cells).

Suitable for use as control antibody for Cdk7 siRNA (h): sc-29266, Cdk7 siRNA (m): sc-29265, Cdk7 shRNA Plasmid (h): sc-29266-SH, Cdk7 shRNA Plasmid (m): sc-29265-SH, Cdk7 shRNA (h) Lentiviral Particles: sc-29266-V and Cdk7 shRNA (m) Lentiviral Particles: sc-29265-V.

Molecular Weight of Cdk7 isoforms: 42/37 kDa.

Positive Controls: ARPE-19 whole cell lysate: sc-364357, RPE-J cell lysate: sc-24771 or WI-38 whole cell lysate: sc-364260.

**RECOMMENDED SUPPORT REAGENTS**

To ensure optimal results, the following support reagents are recommended:

1) Western Blotting: use m-IgGκ BP-HRP or m-IgGκ BP-HRP (Cruz Marker); 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-516141 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Hard-set Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

**DATA**

Cdk7 (MO-1): sc-56284. Western blot analysis of Cdk7 expression in Jurkat (A), HIV-EC-C (B), WI-38 (C), ARPE-19 (D) and RPE-J (E) whole cell lysates.

**SELECT PRODUCT CITATIONS**


**RESEARCH USE**

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