SANTA CRUZ BIOTECHNOLOGY, INC.

Cdk7 (M-346): sc-4104 WB

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The Power to Question

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 42 kDa catalytic subunit and a 37 kDa 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.

REFERENCES

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SOURCE

Cdk7 (M-346) is expressed in *E. coli* as a 42 kDa polyhistidine tagged fusion protein corresponding to amino acids 1-346 representing full length Cdk7 of mouse origin.

STORAGE

Store -20° C; stable for one year from the date of shipment.

PRODUCT

Cdk7 (M-346) is purified from bacterial lysates (>95%) by Ni^{++} affinity chromatography; supplied as 10 µg in 0.1 ml SDS-PAGE loading buffer.

APPLICATIONS

Cdk7 (M-346) is suitable as a Western blotting control for sc-529, sc-723, sc-828, sc-856, sc-857 and sc-7344.

RESEARCH USE

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