SANTA CRUZ BIOTECHNOLOGY, INC.

cyclin H (1-323): sc-4102 WB

SANTA CRUZ BIOTECHNOLOGY

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, in addition, phosphorylation at Thr 160. The enzyme responsible for phosphorylation of Thr160 on Cdk2 and also Thr 161 on Cdc2 p34, 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 earlier 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 required for full activity; mutation of this residue severely reduces CAK activity.

REFERENCES

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SOURCE

Cyclin H (1-323) is expressed in *E. coli* as a 38 kDa polyhistidine tagged fusion protein corresponding to amino acids 1-323 representing full length cyclin H protein of human origin.

STORAGE

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

PRODUCT

Cyclin H (1-323) is purified from bacterial lysates (>98%) by Ni^{++} affinity chromatography; supplied as 10 µg protein in 0.1 ml SDS-PAGE loading buffer.

APPLICATIONS

Cyclin H (1-323) is suitable as a Western blotting control for sc-609, sc-855 and sc-1662.

RESEARCH USE

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