Revision 1

Store at -20C

#2927

Cyclin H Antibody

Cell Signaling TECHNOLOGY®

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For Research Use Only. Not for Use in Diagnostic Procedures.

Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W, IP	H M R	Endogenous	36	Rabbit	#P51946	902

Product Usage Information

Application	Dilution
Western Blotting	1:1000
Immunoprecipitation	1:100

Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA and 50% glycerol. Store at –20°C. Do not aliquot the antibody.

Specificity/Sensitivity

Cyclin H Antibody detects endogenous levels of cyclin H. It does not cross-react with other family members at physiological levels.

Source / Purification

Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to residues near the carboxy-terminus of cyclin H. Antibodies are purified by protein A and peptide affinity chromatography.

Background

Cyclin H belongs to a conserved cyclin family that plays a critical role in the regulation of cell cycle dependent kinases (CDKs) necessary for cell cycle progression (1,2). In general, the activity of CDKs requires the binding of appropriate cyclins as well as phosphorylation driven by Cdk-activating kinase (CAK). Cyclin H is part of the CAK complex that includes the kinase CDK7, and an assembly factor p36/Mat1, which enhances binding between cyclin H and CDK7 and increases activity (3,4). CAK regulates progression through the cell cycle by activating cdc2, CDK2, and CDK4 kinases through phosphorylation of a critical threonine residue in the T-loop of the CDK-cyclin complexes (5,6). The CAK complex can exist either in its free form or in association with transcription factor IIH (TFIIH) which can affect its substrate specificity (7,8,9). When bound to TFIIH, CAK preferentially phosphorylates the carboxy-terminal domain of RNA polymerase II (9), providing a link between cell cycle control, transcriptional regulation, and DNA repair.

Background References

1. Fisher, R.P. and Morgan, D.O. (1994) *Cell* 78, 713-24.
2. Mäkelä, T.P. et al. (1994) *Nature* 371, 254-7.
3. Yee, A. et al. (1995) *Cancer Res* 55, 6058-62.
4. Devault, A. et al. (1995) *EMBO J* 14, 5027-36.
5. Solomon, M.J. (1994) *Trends Biochem Sci* 19, 496-500.
6. Morgan, D.O. (1995) *Nature* 374, 131-4.
7. Shiekhattar, R. et al. (1995) *Nature* 374, 283-7.
8. Serizawa, H. et al. (1995) *Nature* 374, 280-2.
9. Rossignol, M. et al. (1997) *EMBO J* 16, 1628-37.

Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

Western Blot Buffer

IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v nonfat dry milk, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

Applications Key

W: Western Blotting **IP:** Immunoprecipitation

Cross-Reactivity Key

H: Human **M:** Mouse **R:** Rat

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Limited Uses

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