Revision 1

Store at -20C

#9064

HEXIM1 Antibody

Cell Signaling TECHNOLOGY®

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Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W, IP	H Mk	Endogenous	60	Rabbit	#O94992	10614

Product Usage Information

Application	Dilution
Western Blotting	1:1000
Immunoprecipitation	1:50

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

HEXIM1 Antibody recognizes endogenous levels of total HEXIM1 protein.

Species predicted to react based on 100% sequence homology

Bovine, Dog, Horse

Source / Purification

Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to residues near the amino terminus of human HEXIM1 protein. Antibodies are purified by protein A and peptide affinity chromatography.

Background

Hexamethylene bis-acetamide-inducible protein 1 (HEXIM1) was originally identified in vascular smooth muscle cells as a protein that is upregulated upon treatment with the differentiating agent hexamethylene bisacetamide (1). HEXIM1 binds 7SK RNA, a highly abundant non-coding RNA, and together they act as a potent inhibitor of positive transcription elongation factor b (P-TEFb) (2,3). P-TEFb phosphorylates the C-terminal domain of the largest subunit of RNA polymerase II and is an important regulator of transcription elongation (4-8). 7SK RNA-bound HEXIM1 interacts with the cyclin T1 subunit of P-TEFb, sequestering P-TEFb in an inactive form leading to transcription inhibition (2,3). The regulation of the relative ratio of inactive to active P-TEFb in the cell by HEXIM1/7SK RNA is thought to play a critical role in regulation of a wide range of cellular gene expression programs such as estrogen and glucocorticoid receptor regulated genes (9-12).

Background References

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4. Buratowski, S. (2009) *Mol Cell* 36, 541-6.
5. Lenasi, T. and Barboric, M. *RNA Biol* 7, 145-50.
6. Pirngruber, J. et al. (2009) *Cell Cycle* 8, 3636-42.
7. Wada, T. et al. (1998) *EMBO J* 17, 7395-403.
8. Yamada, T. et al. (2006) *Mol Cell* 21, 227-37.
9. Peterlin, B.M. et al. (2012) *Wiley Interdiscip Rev RNA* 3, 92-103.
10. Ketchart, W. et al. (2011) *Oncogene* 30, 3563-9.
11. Ogba, N. et al. (2008) *Cancer Res* 68, 7015-24.
12. Shimizu, N. et al. (2005) *Proc Natl Acad Sci U S A* 102, 8555-60.

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 BSA, 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 **Mk:** Monkey

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