SANTA CRUZ BIOTECHNOLOGY, INC.

HEXIM1 (2416C2a): sc-81285

BACKGROUND

Hexamethylene bis-acetamide inducible 1 (HEXIM1) and Hexamethylene bis-acetamide inducible 2 (HEXIM2) comprise a family of proteins which inhibit positive transcription elongation factor β (P-TEFβ) through association with 7SK. P-TEFβ is composed of a catalytic subunit, Cdk9, and either Cyclin T1 or T2 as a regulatory subunit. This complex regulates eukaryotic gene expression at the level of elongation. The C-terminal domains of HEXIM proteins interact directly with each other. Via these domains, HEXIM1 and HEXIM2 form stable homo- and hetero-oligomers, which may aid in the formation of the 7SK small nuclear ribonucleic acid particle. Despite their similar functions, HEXIM1 and HEXIM2 exhibit distinct expression patterns in various established cell lines and human tissues.

REFERENCES

1. Byers, S.A., et al. 2005. HEXIM2, a HEXIM1-related protein, regulates positive transcription elongation factor β through association with 7SK. J. Biol. Chem. 280: 16360-16367.
2. Yik, J.H., et al. 2005. Compensatory contributions of HEXIM1 and HEXIM2 in maintaining the balance of active and inactive positive transcription elongation factor β complexes for control of transcription. J. Biol. Chem. 280: 16368-16376.
3. Li, Q., et al. 2005. Analysis of the large inactive P-TEFβ complex indicates that it contains one 7SK molecule, a dimer of HEXIM1 or HEXIM2, and two P-TEFβ molecules containing Cdk9 phosphorylated at threonine 186. J. Biol. Chem. 280: 28819-28826.
4. Dulac, C., et al. 2005. Transcription-dependent association of multiple positive transcription elongation factor units to a HEXIM multimer. J. Biol. Chem. 280: 30619-30629.
5. Fraldi, A., et al. 2005. Inhibition of Tat activity by the HEXIM1 protein. Retrovirology 2: 42.

CHROMOSOMAL LOCATION

Genetic locus: HEXIM1 (human) mapping to 17q21.31.

SOURCE

HEXIM1 (2416C2a) is a mouse monoclonal antibody raised against a recombinant protein corresponding to the N-terminal region of HEXIM1 of human origin.

PRODUCT

Each vial contains 100 µg IgG_1 in 1.0 ml of PBS with < 0.1% sodium azide and 1.0% stabilizer protein.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.

APPLICATIONS

HEXIM1 (2416C2a) is recommended for detection of HEXIM1 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)].

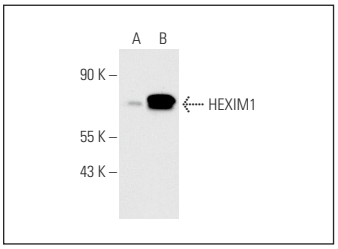
Suitable for use as control antibody for HEXIM1 siRNA (h): sc-60787, HEXIM1 shRNA Plasmid (h): sc-60787-SH and HEXIM1 shRNA (h) Lentiviral Particles: sc-60787-V.

Molecular Weight (predicted) of HEXIM1: 41 kDa.

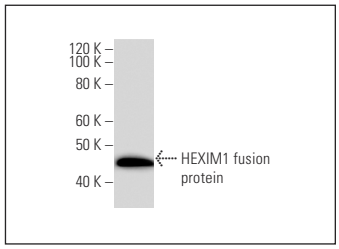
Molecular Weight (observed) of HEXIM1: 60-68 kDa.

Positive Controls: HEXIM1 (h2): 293T lysate: sc-171805, SK-N-MC cell lysate: sc-2237 or HeLa whole cell lysate: sc-2200.

DATA



HEXIM1 (2416C2a): sc-81285. Western blot analysis of HEXIM1 expression in non-transfected: sc-117752 (**A**) and human HEXIM1 transfected: sc-171805 (**B**) 293T whole cell lysates.



HEXIM1 (2416C2a): sc-81285. Western Blot analysis of human recombinant HEXIM1 fusion protein.

SELECT PRODUCT CITATIONS

1. Fujinaga, K., et al. 2015. Visualization of positive transcription elongation factor b (P-TEFb) activation in living cells. J. Biol. Chem. 290: 1829-1836.
2. Geddes, V.E.V., et al. 2017. HTLV-1 Tax activates HIV-1 transcription in latency models. Virology 504: 45-51.

STORAGE

For immediate and continuous use, store at 4° C for up to one month. For sporadic use, freeze in working aliquots in order to avoid repeated freeze/thaw cycles. If turbidity is evident upon prolonged storage, clarify solution by centrifugation.