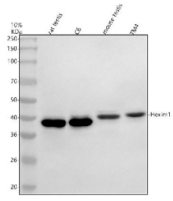
HEXIM2 Antibody / Hexamethylene bisacetamide-inducible protein 2 (FY13208)

Catalog No.	Formulation	Size
FY13208	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

Bulk quote request

Availability	1-2 days
Species Reactivity	Human, Mouse, Rat
Format	Lyophilized
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Immunogen affinity purified
Buffer	Each vial contains 4 mg Trehalose, 0.9 mg NaCl, 0.2 mg Na2HPO4.
UniProt	Q3TVI4
Applications	Western Blot: 0.25-0.5ug/ml ELISA: 0.1-0.5ug/ml
Limitations	This HEXIM2 antibody is available for research use only.



Western blot analysis of HEXIM2 using anti-HEXIM2 antibody. Electrophoresis was performed on a 10% SDS-PAGE gel at 80V (Stacking gel) / 120V (Resolving gel) for 2 hours. Lane 1: rat testis tissue lysates, Lane 2: rat C6 whole cell lysates, Lane 3: mouse testis tissue lysates, Lane 4: mouse TM4 whole cell lysates. After electrophoresis, proteins were transferred to a nitrocellulose membrane at 150 mA for 50-90 minutes. Blocked the membrane with 5% non-fat milk/TBS for 1.5 hour at RT. The membrane was incubated with rabbit anti-HEXIM2 antibody at 0.5 ug/ml overnight at 4oC, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-rabbit IgG-HRP secondary antibody at a dilution of 1:5000 for 1.5 hour at RT. The signal was developed using an ECL Plus Western Blotting Substrate. Western blot detection of HEXIM2 shows a single band at ~38 kDa in rat and ~40 kDa in mouse samples. Despite a calculated mass of ~32-33 kDa, HEXIM2 frequently migrates larger on SDS-PAGE, consistent with its acidic regions and post-translationally modified forms.

Description

HEXIM2 antibody detects Hexamethylene bisacetamide-inducible protein 2, a transcriptional regulator that modulates RNA polymerase II elongation through control of P-TEFb (positive transcription elongation factor b) activity. The UniProt recommended name is Hexamethylene bisacetamide-inducible protein 2 (HEXIM2). This nuclear protein functions similarly to its paralog HEXIM1, acting as a negative regulator of transcriptional elongation by forming inhibitory complexes with cyclin-dependent kinase 9 (CDK9) and cyclin T1.

Functionally, HEXIM2 antibody identifies a 286-amino-acid protein localized predominantly in the nucleus, where it binds 7SK small nuclear RNA (7SK snRNA) to form the 7SK snRNP complex. This complex sequesters and inhibits P-TEFb, thereby controlling the phosphorylation of the C-terminal domain (CTD) of RNA polymerase II and modulating gene expression rates. HEXIM2 dynamically regulates the transition between transcriptional pausing and elongation, coordinating cellular responses to stress, differentiation, and growth factors.

The HEXIM2 gene is located on chromosome 17q21.32 and is expressed in various tissues, including brain, heart, and skeletal muscle. It plays important roles in transcriptional control during development and cell cycle progression, as well as in regulating expression of immediate early genes and viral transcriptional machinery.

Pathologically, altered HEXIM2 expression has been implicated in cancer, cardiac hypertrophy, and neurodegenerative diseases. Decreased HEXIM2 function enhances P-TEFb activity, leading to hyperactive transcription and dysregulated cell growth, while increased expression contributes to transcriptional repression and altered differentiation. Research using HEXIM2 antibody supports studies in transcriptional regulation, RNA biology, and disease-related gene expression control.

HEXIM2 antibody is validated for western blotting, immunohistochemistry, and immunofluorescence to detect nuclear transcriptional regulators. NSJ Bioreagents provides HEXIM2 antibody reagents optimized for studies in transcription elongation, gene expression, and cell signaling pathways.

Structurally, Hexamethylene bisacetamide-inducible protein 2 contains an RNA-binding domain and basic regions essential for 7SK snRNA interaction and P-TEFb inhibition. Its conformational flexibility allows rapid response to signaling cues that release or restore inhibition of transcription elongation. This antibody enables detailed investigation of HEXIM2's function in controlling RNA polymerase II-mediated transcription and cellular adaptation to stress.

Application Notes

Optimal dilution of the HEXIM2 antibody should be determined by the researcher.

Immunogen

E.coli-derived mouse HEXIM2 recombinant protein (Position: L17-R313) was used as the immunogen for the HEXIM2 antibody.

Storage

After reconstitution, the HEXIM2 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.

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