

## Recombinant Mouse Hnrnpu Protein, Myc/DDK-tagged

Cat. No. Hnrnpu-3422M Lot. No. (See product label)

### SPECIFICATION

**Product Overview** Purified recombinant protein of mouse full-length heterogeneous nuclear ribonucleoprotein U (Hnrnpu), with C-terminal MYC/DDK tag, expressed in HEK293T cells.


**Species** Mouse

**Source** HEK293

**Description** DNA- and RNA-binding protein involved in several cellular processes such as nuclear chromatin organization, telomere-length regulation, transcription, mRNA alternative splicing and stability, Xist-mediated transcriptional silencing and mitotic cell progression. Plays a role in the regulation of interphase large-scale gene-rich chromatin organization through chromatin-associated RNAs (caRNAs) in a transcription-dependent manner, and thereby maintains genomic stability. Required for the localization of the long non-coding Xist RNA on the inactive chromosome X (Xi) and the subsequent initiation and maintenance of X-linked transcriptional gene silencing during X-inactivation. Plays a role as a RNA polymerase II (Pol II) holoenzyme transcription regulator. Promotes transcription initiation by direct association with the core-TFIID basal transcription factor complex for the assembly of a functional pre-initiation complex with Pol II in a actin-dependent manner. Blocks Pol II transcription elongation activity by inhibiting the C-terminal domain (CTD) phosphorylation of Pol II and dissociates from Pol II pre-initiation complex prior to productive transcription elongation. Positively regulates CBX5-induced transcriptional gene silencing and retention of CBX5 in the nucleus. Negatively regulates

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glucocorticoid-mediated transcriptional activation. Key regulator of transcription initiation and elongation in embryonic stem cells upon leukemia inhibitory factor (LIF) signaling. Involved in the long non-coding RNA H19-mediated Pol II transcriptional repression. Participates in the circadian regulation of the core clock component ARNTL/BMAL1 transcription. Plays a role in the regulation of telomere length. Plays a role as a global pre-mRNA alternative splicing modulator by regulating U2 small nuclear ribonucleoprotein (snRNP) biogenesis. Plays a role in mRNA stability. Component of the CRD-mediated complex that promotes MYC mRNA stabilization. Enhances the expression of specific genes, such as tumor necrosis factor TNFA, by regulating mRNA stability, possibly through binding to the 3'-untranslated region (UTR). Plays a role in mitotic cell cycle regulation. Involved in the formation of stable mitotic spindle microtubules (MTs) attachment to kinetochore, spindle organization and chromosome congression. Phosphorylation at Ser-58 by PLK1 is required for chromosome alignment and segregation and progression through mitosis. Contributes also to the targeting of AURKA to mitotic spindle MTs. Binds to double- and single-stranded DNA and RNA, poly(A), poly(C) and poly(G) oligoribonucleotides. Binds to chromatin-associated RNAs (caRNAs). Associates with chromatin to scaffold/matrix attachment region (S/MAR) elements in a chromatin-associated RNAs (caRNAs)-dependent manner. Binds (via RNA-binding RGG-box region) to the long non-coding Xist RNA; this binding is direct and bridges the Xist RNA and the inactive chromosome X (Xi). Binds the long non-coding H19 RNA. Binds to SMN1/2 pre-mRNAs at G/U-rich regions. Binds to small nuclear RNAs (snRNAs). Binds to the 3'-UTR of TNFA mRNA. Also negatively regulates embryonic stem cell differentiation upon LIF signaling. Required for embryonic development. Binds to brown fat long non-coding RNA 1 (Blnc1); facilitates the recruitment of Blnc1 by ZBTB7B required to drive brown and beige fat development and thermogenesis.

<b>Molecular Mass</b>	88.4 kDa
<b>Purity</b>	> 80% as determined by SDS-PAGE and Coomassie blue staining

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<b>Stability</b>	Stable for 12 months from the date of receipt of the product under proper storage and handling conditions. Avoid repeated freeze-thaw cycles.
<b>Storage</b>	Store at -80 centigrade after receiving vials.
<b>Concentration</b>	>50 µg/mL as determined by microplate BCA method
<b>Storage Buffer</b>	25 mM Tris.HCl, pH 7.3, 100 mM glycine, 10% glycerol.

## GENE INFORMATION

<b>Gene Name</b>	Hnrnpu heterogeneous nuclear ribonucleoprotein U [ Mus musculus (house mouse) ]
<b>Official Symbol</b>	Hnrnpu
<b>Synonyms</b>	HNRNPU; heterogeneous nuclear ribonucleoprotein U; SAF-A; nuclear matrix protein sp120; scaffold attachment factor A; heterogenous nuclear ribonucleoprotein U; SAFA; Hnrpu; Sp120; C86794; hnRNP U; AA408410; AI256620; AL024194; AL024437; AW557595
<b>Gene ID</b>	51810
<b>mRNA Refseq</b>	NM_016805
<b>Protein Refseq</b>	NP_058085
<b>UniProt ID</b>	Q8VEK3

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