

Nucleophosmin/Npm1 Protein, Mouse (His-SUMO)

Cat. No.:	HY-P71574
Synonyms:	Npm1; Nucleophosmin; NPM; Nucleolar phosphoprotein B23; Nucleolar protein NO38; Numatrin
Species:	Mouse
Source:	E. coli
Accession:	Q61937 (1M-292L)
Gene ID:	18148
Molecular Weight:	Approximately 48.6 kDa

PROPERTIES

AA Sequence	<pre> M E D S M D M D M S P L R P Q N Y L F G C E L K A D K D Y H F K V D N D E N E H Q L S L R T V S L G A G A K D E L H I V E A E A M N Y E G S P I K V T L A T L K M S V Q P T V S L G G F E I T P P V V L R L K C G S G P V H I S G Q H L V A V E E D A E S E D E D E E D V K L L G M S G K R S A P G G G N K V P Q K K V K L D E D D E D D D E D D E D D E D D D D D D F D E E E T E E K V P V K K S V R D T P A K N A Q K S N Q N G K D L K P S T P R S K G Q E S F K K Q E K T P K T P K G P S S V E D I K A K M Q A S I E K G G S L P K V E A K F I N Y V K N C F R M T D Q E A I Q D L W Q W R K S L </pre>
Appearance	Lyophilized powder.
Formulation	Lyophilized after extensive dialysis against solution in Tris-based buffer, 50% glycerol.
Endotoxin Level	<1 EU/μg, determined by LAL method.
Reconstitution	It is not recommended to reconstitute to a concentration less than 100 μg/mL in ddH ₂ O.
Storage & Stability	Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage.
Shipping	Room temperature in continental US; may vary elsewhere.

DESCRIPTION

Background	Nucleophosmin/Npm1 is a multifunctional protein engaged in various cellular processes, including ribosome biogenesis, centrosome duplication, protein chaperoning, histone assembly, cell proliferation, and the regulation of tumor suppressors such as p53/TP53 and ARF. Its involvement in driving ribosome nuclear export is associated with its binding to ribosomes, while it forms complexes with nucleolar ribonucleoprotein structures and binds single-stranded nucleic acids. Acting as a chaperonin for core histones H3, H2B, and H4, Npm1 stimulates APEX1 endonuclease activity on double-stranded DNA but
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inhibits it on single-stranded RNA. Additionally, it plays a role in controlling APEX1 endonuclease activity within nucleoli, contributing to the repair of apurinic/aprimidinic sites on rDNA and the removal of oxidized rRNA molecules. Npm1 is implicated in centrosome and centriole duplication, negatively regulating EIF2AK2/PKR activation to suppress apoptosis. Furthermore, it interacts with various proteins, such as MYC, NSUN2, SENP3, and NEK2, highlighting its diverse molecular partnerships and functional versatility. The protein forms a decamer with disulfide-linked dimers under specific conditions and participates in complexes like the SWAP complex, emphasizing its dynamic engagement in cellular processes.

Caution: Product has not been fully validated for medical applications. For research use only.

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