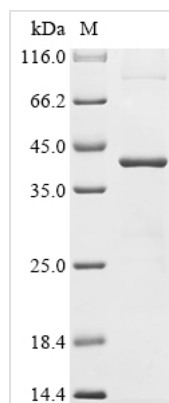




# Recombinant Human Nucleophosmin (NPM1)

<b>Product Code</b>	CSB-EP015996HU
<b>Storage</b>	The shelf life is related to many factors, storage state, buffer ingredients, storage temperature and the stability of the protein itself. Generally, the shelf life of liquid form is 6 months at -20°C/-80°C. The shelf life of lyophilized form is 12 months at -20°C/-80°C.
<b>Uniprot No.</b>	P06748
<b>Form</b>	Liquid or Lyophilized powder
<b>Storage Buffer</b>	If the delivery form is liquid, the default storage buffer is Tris/PBS-based buffer, 5%-50% glycerol. If the delivery form is lyophilized powder, the buffer before lyophilization is Tris/PBS-based buffer, 6% Trehalose.
<b>Product Type</b>	Recombinant Protein
<b>Immunogen Species</b>	Homo sapiens (Human)
<b>Purity</b>	Greater than 90% as determined by SDS-PAGE.
<b>Sequence</b>	MEDSMDMDMSPLRPQNYLFGCELKADKDYHFKVDNDENEHQLSLRTVSLGA GAKDELHIVEAEAMNYEGSPIKVTLATLKMSVQPTVSLGGFEITPPVVLRLKCG SGPVHISGQHLVAVEEDAEESEDEEEEDVKLLSISGKRSAPGGGSKVPQKKVKL AADEDDDDDEEDDDDEDDDDDDFDDEEAEEKAPVKKSIRDTPAKNAQKSNQ NGKDSKPSSTPRSKGQESFKKQEKTPKTPKGPSSVEDIKAKMQASIEKGGSLP KVEAKFINYVKNCFRMTDQEAIQDLWQWRKSL
<b>Lead Time</b>	3-7 business days
<b>Research Area</b>	Epigenetics and Nuclear Signaling
<b>Source</b>	E.coli
<b>Gene Names</b>	NPM1
<b>Expression Region</b>	1-294aa
<b>Notes</b>	Repeated freezing and thawing is not recommended. Store working aliquots at 4°C for up to one week.
<b>Tag Info</b>	N-terminal 6xHis-tagged
<b>Mol. Weight</b>	36.7 kDa
<b>Protein Description</b>	Full Length
<b>Image</b>	



(Tris-Glycine gel) Discontinuous SDS-PAGE (reduced) with 5% enrichment gel and 15% separation gel.

## Description

To produce the recombinant human NPM1 protein with an N-terminal 6xHis tag, the NPM1 gene (1-294aa) is co-cloned into a vector with the 6xHis-tag gene. The *E. coli* cells are transformed with the recombinant vector, and protein expression is induced using IPTG. After cell lysis, the recombinant NPM1 protein is purified using affinity chromatography. Its purity is verified using SDS-PAGE, and the final product shows over 90% purity, confirming its suitability for biochemical assays.

Human NPM1 is a multifunctional nucleolar phosphoprotein that plays critical roles in various cellular processes, including ribosome biogenesis, cell cycle regulation, and apoptosis. It is primarily localized in the nucleolus but can shuttle between the nucleus and cytoplasm, reflecting its diverse functional roles in cellular homeostasis and stress response [1][2].

NPM1 is involved in the assembly and transport of ribosomal components, which is essential for protein synthesis. Its expression is often upregulated in proliferating cells, indicating its potential role in promoting cell growth and division [1][2]. Moreover, NPM1 has been implicated in the regulation of oncogenic processes. It interacts with several key proteins, including c-Myc and p53, and has been shown to influence their activities, thereby affecting cell proliferation and tumorigenesis [3][4]. Overexpression of NPM1 has been associated with poor prognosis in various cancers, including gastric, breast, and colorectal cancers, where it contributes to tumor growth and resistance to apoptosis [5][6][7].

NPM1 is also involved in cellular responses to DNA damage and stress. It has been shown to participate in the repair of DNA and the regulation of cell survival pathways, which further underscores its importance in maintaining cellular integrity [8][9]. The protein's ability to shuttle between the nucleolus and cytoplasm allows it to respond dynamically to cellular signals, making it a critical player in the cellular stress response [10].

## References:

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## Reconstitution

We recommend that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. Please reconstitute protein in deionized sterile water to a concentration of 0.1-1.0 mg/mL. We recommend to add 5-50% of glycerol (final concentration) and aliquot for long-term storage at -20°C/-80°C. Our default final concentration of glycerol is 50%. Customers could use it as reference.