



LD Biopharma, Inc.
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- PRODUCT DATA SHEET -

Name of Product: Recombinant Human NPM1 Protein
Catalog Number: hRP-1550
Manufacturer: LD Biopharma, Inc.

Introduction

Human nucleophosmin (NPM1) gene encodes a phosphoprotein which moves between the nucleus and the cytoplasm. This protein is thought to be involved in several processes including regulation of the ARF/p53 pathway. A number of genes are fusion partners have been characterized, in particular the anaplastic lymphoma kinase gene on chromosome 2. Mutations in this gene are associated with acute myeloid leukemia. More than a dozen pseudogenes of this gene have been identified. Alternative splicing results in multiple transcript variants.

Full-length human NPM1 (293aa, derived from BC050628) gene was constructed with 29 aa N-terminal T7 / His / TEV cleavage site Tag and expressed in E.coli as inclusion bodies. The final product was refolded using our unique “temperature shift inclusion body refolding” technology and chromatographically purified.

Gene Symbol: NPM1 (B23; NPM)
Accession Number: NP_002511.1
Species: Human
Size: 20 µg / Vial
Composition: 0.2 mg/ml, sterile-filtered, in 20 mM pH 8.0 Tris-HCl Buffer, with proprietary formulation of NaCl, KCl, EDTA, Sucrose, DTT .
Storage: In Liquid. Keep at -80°C for long term storage. Product is stable at 4 °C for at least 30 days.

Key References

Fankhauser C, et al., *Specific complex of human immunodeficiency virus type 1 rev and nucleolar B23 proteins: dissociation by the Rev response element*. Mol. Cell. Biol. 11 (5), 2567-2575 (1991)

Greiner,J., et al., *Immune responses against the mutated region of cytoplasmatic NPM1*



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might contribute to the favorable clinical outcome of AML patients with NPM1 mutations (NPM1mut). Blood 122 (6), 1087-1088 (2013)

Huang M, et al., *Role of cysteine 288 in nucleophosmin cytoplasmic mutations: sensitization to toxicity induced by arsenic trioxide and Bortezomib. Leukemia 27 (10), 1970-1980 (2013)*

Waterhouse M, et al., *A fast and simple approach for the simultaneous detection of hematopoietic chimerism, NPM1, and FLT3-ITD mutations after allogeneic stem cell transplantation. Ann. Hematol. 93 (2), 293-298 (2014)*

Londero AP, et al., *Expression and prognostic significance of APE1/ Ref-1 and NPM1 proteins in high-grade ovarian serous cancer. Am. J. Clin. Pathol. 141 (3), 404-414 (2014)*

Applications

1. May be used as auto-antibodies detection reagent, which will react with sera of some auto-immuno-diseases and cancer patients.
2. May be used for in vitro human NPM1 mediated regulation of mRNA transportation between nuclei and cytoplasm study by intracellularly delivery this protein with "ProFectin" reagent.
3. May be used for NPM1 protein-protein interaction assay.
4. May be used as specific substrate protein for kinase, and ubiquitin (Sumo pathway) related enzyme functional screening assays.
5. As antigen for specific antibody production.

Quality Control

Purity: > 90% by SDS-PAGE.

Recombinant Protein Sequence

MASMTGGQQMGRGHHHHHHENLYFQGGFEDSMDMDMSPLRPQNYLFGCELKADKDYHFKVDND
ENEHQLSLRTVSLGAGAKDELHIVEAEAMNYEGSPIKVTLATLKMSVQPTVSLGGFEITPPVVL
RLKCGSGPVHISGQHLVAVEEDAEESEDEEEEDVKLLSISGKRSAPGGGSKVPQKKVKLADEDD
DDDDEEDDDDDDDDDFDDEEAEEKAPVKKSIRDTPAKNAQKSNQNGKDSKPSSTPRSKGQESF
KKQEKTPKTPKGPSSVEDIKAKMQASIEKGGSLPKVEAKFINYVKNCFRMTDQEAIQDLWQWRK
SL