Data Sheet (Cat.No.TMPY-01925)

TargetMol

Nucleophosmin Protein, Human, Recombinant (His)

General Information

Synonyms:	nucleophosmin (nucleolar phosphoprotein B23, numatrin);B23;NPM
Protein Construction:	A DNA sequence encoding the human NPM1 isoform 1 (P06748-1) N-terminal segment (Met 9-Leu 158) was expressed, with a polyhistide tag at the N-terminus. Predicted N terminal: Met
Species:	Human
Expression Host:	E. coli
Accession:	P06748-1
Molecular Weight:	17.8 kDa (predicted); 20 kDa (reducing conditions)

QC Testing

Biological Activity:	Activity testing is in progress. It is theoretically active, but we cannot guarantee it. If you require protein activity, we recommend choosing the eukaryotic expression version first.
Purity:	> 90 % as determined by SDS-PAGE
Endotoxin:	Please contact us for more information.
Formulation:	Lyophilized from a solution filtered through a 0.22 μm filter, containing PBS, pH 6. 0.Typically, a mixture containing 5% to 8% trehalose, mannitol, and 0.01% Tween 80 is incorporated as a protective agent before lyophilization.

Preparation and Storage

Reconstitution:

A Certificate of Analysis (CoA) containing reconstitution instructions is included with the products. Please refer to the CoA for detailed information.

Stability & Storage:

It is recommended to store recombinant proteins at -20°C to -80°C for future use. Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

Shipping:

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

Protein Background

Nucleophosmin 1 (NPM1), also known as nucleolar phosphoprotein B23 or numatrin, is a member of the nucleoplasmin family. Nucleophosmin (NPM) is a nucleolar phosphoprotein that plays multiple roles in ribosome assembly and transport, cytoplasmic-nuclear trafficking, centrosome duplication, and regulation of p53. The NPM1 gene is frequently involved in chromosomal translocation, mutation, and deletion. Mutations of the NPM1 gene leading to the expression of a cytoplasmic mutant protein, NPMc+, are the most frequent genetic

abnormalities found in acute myeloid leukemias. Acute myeloid leukemia (AML) with mutated NPM1 have distinct characteristics, including a significant association with a normal karyotype, the involvement of different hematopoietic lineages, a specific gene-expression profile, and clinically, a better response to induction therapy, and a favorable prognosis. Also, NPM1 is a crucial gene to consider in the context of the genetics and biology of cancer. NPM1 is frequently overexpressed, mutated, rearranged, and deleted in human cancer. Traditionally regarded as a tumor marker and a putative proto-oncogene, it has now also been attributed with tumor-suppressor functions.

Reference

Chen W, et al. (2006) Nucleophosmin gene mutations in acute myeloid leukemia. Arch Pathol Lab Med. 130(11): 1687-92.

Naoe T, et al. (2006) Nucleophosmin: a versatile molecule associated with hematological malignancies. Cancer Sci. 97(10): 963-9.

Grisendi S, et al. (2006) Nucleophosmin and cancer. Nat Rev Cancer. 6(7): 493-505.

Falini B, et al. (2007) Acute myeloid leukemia carrying cytoplasmic/mutated nucleophosmin (NPMc+ AML): biologic and clinical features. Blood. 109(3): 874-85.

Meani N, et al. (2009) Role of nucleophosmin in acute myeloid leukemia. Expert Rev Anticancer Ther. 9(9): 1283-94.

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