LD Biopharma, Inc.
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- PRODUCT DATA SHEET -

Name of Product: Recombinant Human NNMT Protein
Catalog Number: hRP-1410
Manufacturer: LD Biopharma, Inc.

Introduction

N-methylation is one method by which drug and other xenobiotic compounds are metabolized by the liver. Human nicotinamide N-methyltransferase (NNMT) gene encodes the protein responsible for this enzymatic activity, which uses S-adenosyl methionine as the methyl donor. Recent data indicated that activities of NNMT regulating metabolic methylation pathway, which plays important roles in neuronal activities and tumor cell proliferation.

Full-length mature human NNMT cDNA (264 aa) was constructed with codon optimization and expressed with a human Alpha-Fetal Protein N-terminal domain (AFPn)-His-TEV cleavage site (219aa) fusion at its N-terminal. This protein is 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:	NNMT
Accession Number:	NP_006160
Species:	Human
Size:	50 µg / Vial
Composition:	1.0 mg/ml, sterile-filtered, in 20 mM pH 8.0 Tris-HCl Buffer, with proprietary formulation of NaCl, KCl, Sucrose and 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

Win KT, et al., *Nicotinamide N-methyltransferase overexpression is associated with Akt phosphorylation and indicates worse prognosis in patients with nasopharyngeal carcinoma*. Tumour Biol. 34 (6), 3923-3931 (2013)

Sazci A, et al., *Association of nicotinamide-N-methyltransferase (NNMT) gene rs694539 variant with bipolar disorder*. Gene 532 (2), 272-275 (2013)

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Ulanovskaya OA, et al., *NNMT promotes epigenetic remodeling in cancer by creating a metabolic methylation sink*. Nat. Chem. Biol. 9 (5), 300-306 (2013)

Su Kim D, et al., *Composite three-marker assay for early detection of kidney cancer*. Cancer Epidemiol. Biomarkers Prev. 22 (3), 390-398 (2013)

Applications

1. May be used for in vitro human NNMT mediated metabolic methylation regulation in cancer cells study by intracellular delivery of this protein with “ProFectin” reagent.
2. May be used for protein-protein interaction assay.
3. Potential Diagnostic biomarker protein for tumors, such as kidney cancer.
4. As antigen for specific antibody production.

Quality Control

Purity: > 90% by SDS-PAGE.

Recombinant Protein Sequence

MTLHRNEYGIASILDSYQCTAEISLADLATIFFAQFVQEATYKEVSKMVKDALTAIEKPTGDEQ
SSGCLENQLPAFLEELCHEKEILEKYGHSDCCSQSEEGRHNCFLAHKKPTPASIPLFQVPEPVT
SCEAYEEDRETFMNKFIYEIARRHPFLYAPTILLWAARYDKIIPSCCKAENAVECFQTKAATVT
KELRESSGGSHHHHHHGSENLYFQGEFMESGFTSKDTYLSHFNPRDYLEKYYKFGSRHSAESQI
LKHLLKNLFKIFCLDGVKGDLLIDIGSGPTIYQLLSACESFKEIVVTDYSDQNLQELEKWLKKE
PEAFDWSPVVTYVCDLEGNRVKGPEKEEKLRQAVKQVLKCDVTQSQPLGAVPLPPADCVLSTLC
LDAACPDLPTYCRALRNLGSLLKPGGFLVIMDALKSSYYMIGEQKFSSLPLGREAVEAAVKEAG
YTIEWFEVISQSYSSTMANNEGLFSLVARKLSRPL