



NAMPT (Nicotinamide Phosphoribosyltransferase)

Product Data Sheet

For Research Use Only, Not for use in diagnostic procedures

NAMPT

(Nicotinamide Phosphoribosyltransferase)

Human, recombinant protein expressed in *E. coli*, Active

Cat# CY-E1251

Amount: 100µg (1.5 µg/µl)

Lot:

Specific Activity: >1 unit/µg

Introduction:

Nicotinamide phosphoribosyltransferase (NAMPT), also known as pre-B-cell colony-enhancing factor, is the rate-limiting enzyme that converts nicotinamide to nicotinamide mononucleotide (NMN) from nicotinamide in the salvage pathway of NAD biosynthesis in mammals. Nicotinamide mononucleotide adenylyltransferase 1 converts NMN to NAD. The expression of NAMPT is upregulated during activation of immune cells such as monocytes, macrophages, dendritic cells, T and B cells, as well as in amniotic epithelial cells upon stimulation with several inflammatory cytokines. NAMPT-specific inhibitor, FK866 was found to deplete intracellular NAD content, resulting in apoptotic cell death in many cancer cell lines without any DNA damaging effect.

Product Description:

Human NAMPT (nicotinamide phosphoribosyltransferase) containing an N-terminal His-tag, expressed in *E. coli*. and purified by nickel chelating agarose chromatography.

Gene Information:

The gene accession number is NM_005746.

Gene Aliases:

pre-B-cell colony enhancing factor 1 (PBEF), Visfatin

Formulation:

Recombinant NAMPT is supplied frozen in a buffer containing 20 mM Hepes-KOH, pH 7.5, 1 mM DTT, 50 mM NaCl and 50% glycerol. Use a same buffer for dilution when needed.



NAMPT (Nicotinamide Phosphoribosyltransferase)

Product Data Sheet

For Research Use Only, Not for use in diagnostic procedures

Molecular Weight: 56 kDa

Mw (kDa)

97 —

66 —

45 —

31 —

21.5 —

Coomassie blue stain

Recombinant NAMPT demonstrates approximately 56 kDa band by SDS-PAGE analysis.

Storage:

Store product at -70°C. For optimal storage, aliquot target into smaller quantities after centrifugation and store at recommended temperature. For most favorable performance, AVOID REPEATED HANDLING AND MULTIPLE FREEZE/THAW CYCLES.

Stability:

Unopened vial at -70 °C, for 1 year after delivery.

Unit Definitions:

One unit is defined as the amount of nicotinamide phosphoribosyltransferase required producing 1 μ mol of NAD from nicotinamide and phosphoribosyl pyrophosphate (PRPP) in conjunction with excess amount of nicotinamide mononucleotide adenylyl transferase (NMNAT1) per minute at 30°C. Specific Activity will vary among production lots.

Assay condition:

Assay activity of NAMPT in a 100 μ L reaction containing 20 mM Tris HCl (pH 8.0), 0.5 mM nicotinamide, 0.5 mM phosphoribosyl pyrophosphate (PRPP), 2 mM ATP, 12 mM MgCl₂, 1 mM DTT, 200 g/mL BSA, 1.5 % ethanol and 2 μ g of alcohol dehydrogenase. Start the reaction by adding 10 μ L of the NAMPT enzyme (100 ng/ μ L) Incubate at 30°C. Read fluorescence intensity for 60 to 90 minutes at 2.5 to 5 minute intervals using microtiter plate fluorometer with excitation at 340 nm and emission at 460 nm. Measure and calculate the rate of reaction while the reaction velocity remains constant.



NAMPT (Nicotinamide Phosphoribosyltransferase)

Product Data Sheet

For Research Use Only, Not for use in diagnostic procedures

References:

1. Revollo, J. R, Grimm, A. A, Imai, S. (2004) J. Biol. Chem. 279: 50764-50763, 2004.
2. Rongvaux A, Shea RJ, Mulks MH, Gigot D, Urbain J, et al. (2002) Eur J Immunol 32: 3225–3234.
3. Iqbal J, Zaidi M (2006) Biochem Biophys Res Commun 342: 1312–1318.
4. Nau GJ, Richmond JF, Schlesinger A, Jennings EG, Lander ES, et al. (2002) Proc Natl Acad Sci 99: 1503–1508.
5. Huang Q, Liu D, Majewski P, Schulte LC, Korn JM, et al. (2001) Science 294: 870–875.
6. Ognjanovic S, Bao S, Yamamoto SY, Garibay-Tupas J, Samal B, et al. (2001) J Mol Endocrinol 26: 107–117.
7. Max Hasmann and Isabel Schemainda (2003) Cancer Res. 63: 7436 - 7442.

Related Products:

- *CycLex NAMPT Colorimetric Assay Kit: Cat# CY-1251
- *CycLex NMNAT Colorimetric Assay kit: Cat# CY-1252
- *NAMPT (Nicotinamide Phosphoribosyltransferase): Cat# CY-E1251
- *NMNAT1 (Nicotinamide Mononucleotide Adenylyltransferase 1): Cat# CY-E1252
- *CycLex SIRT1/Sir2 Deacetylase Fluorometric Assay Kit: Cat# CY-1151
- *CycLex SIRT2 Deacetylase Fluorometric Assay Kit: Cat# CY-1152
- *CycLex SIRT3 Deacetylase Fluorometric Assay Kit: Cat# CY-1153
- *CycLex SIRT6 Deacetylase Fluorometric Assay Kit: Cat# CY-1156
- *NAD(+)-Dependent Deacetylase SIRT1: Cat# CY-E1151
- *NAD(+)-Dependent Deacetylase SIRT2: Cat# CY-E1152
- *NAD(+)-Dependent Deacetylase SIRT3: Cat# CY-E1153
- *NAD(+)-Dependent Deacetylase SIRT6: Cat# CY-E1156

PRODUCED BY

CycLex Co., Ltd.
1063-103 Terasawaoka
Ina, Nagano 396-0002
Japan
Fax: +81-265-76-7618
e-mail: info@cyclex.co.jp
URL: <http://www.cyclex.co.jp>

CycLex/CircuLex products are supplied for research use only. CycLex/CircuLex products and components thereof may not be resold, modified for resale, or used to manufacture commercial products without prior written approval from CycLex Co., Ltd.. To inquire about licensing for such commercial use, please contact us via email.