

NAD(P) transhydrogenase/NNT Protein, Human, Recombinant (His)

General Information

Synonyms:	NAD(P) transhydrogenase;NNT
Protein Construction:	Met880-Lys1086
Species:	Human
Expression Host:	E. coli
Accession:	Q13423
Molecular Weight:	30 KDa (reducing condition)
AA Sequence:	Met880-Lys1086

QC Testing

Biological Activity:	Activity has not been tested. It is theoretically active, but we cannot guarantee it. If you require protein activity, we recommend choosing the eukaryotic expression version first.
Purity:	Greater than 95% as determined by reducing SDS-PAGE. (QC verified)
Endotoxin:	< 0.1 ng/μg (1 EU/μg) as determined by LAL test.
Formulation:	Supplied as a 0.2 μm filtered solution of PBS, 10 mM GSH, 50% Glycerol, pH7.4.

Preparation and Storage

Stability & Storage:

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:

Proteins are shipped with blue ice.

Protein Background

NAD(P)+transhydrogenase (NNT) is located in the inner mitochondrial membrane and catalyzes a reversible hydride transfer between NAD(H) and NADP(H) that is coupled to proton translocation between the intermembrane space and mitochondrial matrix. NNT activity has an essential role in maintaining the NADPH supply for antioxidant defense and biosynthetic pathways. Structurally, NNT is composed of three domains; domains I and III are hydrophilic and have binding sites for NAD and NADP, respectively, while domain II is hydrophobic and is a transmembrane pathway through which protons translocate. NNT forms dimers, whose monomers act in an anti-phase way; domain III (NADP(H)- binding) flips, allowing proton translocation across the inner mitochondrial membrane one moment and favoring hydride transfer between NAD(H) and NADP(H) the next. And NNT pathophysiological roles after the discovery of a spontaneous Nnt mutation in C57BL/6J mice. And Nnt silencing reduced the growth of cancer cell lines, suggesting that NNT might be a therapeutic target in some

cancers.

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