Creative Enzymes®

Glyceraldehyde-3-phosphate dehydrogenase from Human, Recombinant

Cat. No. NATE-0937

Lot. No. (See product label)

Introduction

Description

Glyceraldehyde-3-phosphate dehydrogenase (GAPDH), a tetramer of 36 kDa subunits, is a catalytic enzyme involved in glycolysis. GAPDH catalyzes the reversible reduction of glyceraldehyde-3-phosphate to 3-phosphoglycerol phosphate in the presence of NAD+. Besides functioning as a glycolytic enzyme in the cytoplasm, mammalian GAPDH is also involved in a variety of intracellular processes such as membrane fusion, microtubule bundling, phosphotransferase activity, nuclear RNA export, DNA replication, and DNA repair. Glyceraldehyde-3-phosphate dehydrogenase was also found to bind to mutant polyglutamine proteins formed in neurodegenerative diseases such as Huntington′s disease, to bind to the cytoplasmic domain of APP (amyloid precursor protein), and to bind and protect telomeres from chemotherapy-induced rapid degradation. GAPDH has also been suggested as a promising drug target for hepatocellular carcinoma therapy, but has also been shown to have apoptotic activity by its binding to the E3 ubiquitin ligase Siah1.

Synonyms

EC 1.2.1.12; GAPDH; glyceraldehyde-3-phosphate dehydrogenase (phosphorylating); triosephosphate dehydrogenase; dehydrogenase, glyceraldehyde phosphate; phosphoglyceraldehyde dehydrogenase; 3-phosphoglyceraldehyde dehydrogenase; NAD+-dependent glyceraldehyde phosphate dehydrogenase; glyceraldehyde phosphate dehydrogenase (NAD+); glyceraldehyde-3-phosphate dehydrogenase (NAD+); NADH-glyceraldehyde phosphate dehydrogenase; glyceraldehyde-3-P-dehydrogenase; 9001-50-7

Product Information

Species	Human
Source	E. coli
Form	Lyophilized from a buffered solution with stabilizers
Molecular Weight	37,984 Da
Activity	> 80 units/mg protein
Unit Definition	One unit will reduce 1.0 µmole of 3-phosphoglycerate to D-glyceraldehyde 3-phosphate per minute in a coupled system with 3-phosphoglyceric phosphokinase (3-PGK) at pH 7.6 at 25 °C

Storage and Shipping Information

Stability

Store at -20°C