Creative Enzymes®

Isocitrate dehydrogenase (NAD+) from Bacteria, Recombinant

Cat. No. NATE-1041

Lot. No. (See product label)

Introduction

Description	Isocitrate dehydrogenase (IDH) is an enzyme that catalyzes the oxidative decarboxylation of Isocitrate, producing alpha-ketoglutarate (α-ketoglutarate) and CO2. This is a two-step process, which involves oxidation of Isocitrate (a secondary alcohol) to oxalosuccinate (a ketone), followed by the decarboxylation of the carboxyl group beta to the ketone, forming alpha-ketoglutarate. In humans, IDH exists in three isoforms:IDH3 catalyzes the third step of the citric acid cycle while converting NAD+ to NADH in the mitochondria. The isoforms IDH1 and IDH2 catalyze the same reaction outside the context of the citric acid cycle and use NADP+ as a cofactor instead of NAD+. They localize to the cytosol as well as the mitochondrion and peroxisome.
Synonyms	Beta-ketoglutaric-isocitric carboxylase; IDH; Isocitrate dehydrogenase (NAD); Isocitric acid dehydrogenase; Isocitric dehydrogenase; NAD dependent Isocitrate dehydrogenase; NAD Isocitrate dehydrogenase; NAD isocitric dehydrogenase; NAD-linked Isocitrate dehydrogenase; NAD-specific Isocitrate dehydrogenase; Nicotinamide adenine dinucleotide Isocitrate dehydrogenase; EC 1.1.1.41

Product Information

Species	Bacteria
Source	E. coli
Form	Lyophilized powder
EC Number	EC 1.1.1.41
CAS No.	9001-58-5
Molecular Weight	40 kD (SDS-PAGE)
Activity	> 40 Units / mg
Contaminants	Isocitrate dehydrogenase (NADP+) < 5%
pH Stability	5.5 - 8.0
Optimum pH	8.0 - 9.0
Thermal stability	<45°C
Optimum temperature	60°C

Storage and Shipping Information

Storage	Below -20°C