Creative Enzymes®

Native Porcine Isocitric Dehydrogenase (NADP)

Cat. No. NATE-0350

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	oxalosuccinate decarboxylase; Isocitrate dehydrogenase (NADP); oxalsuccinic decarboxylase; Isocitrate (NADP) dehydrogenase; Isocitrate (nicotinamide adenine dinucleotide phosphate) dehydrogenase; NADP-specific Isocitrate dehydrogenase; NADP-linked Isocitrate dehydrogenase; NADP-dependent Isocitrate dehydrogenase; NADP isocitric dehydrogenase; Isocitrate dehydrogenase (NADP-dependent); NADP-dependent isocitric dehydrogenase; triphosphopyridine nucleotide-linked Isocitrate dehydrogenase-oxalosuccinate carboxylase; NADP+-linked Isocitrate dehydrogenase; IDH (ambiguous); dual-cofactor-specific Isocitrate dehydrogenase; NADP+-ICDH; NADP+-IDH; IDP; IDP1; IDP2; IDP3; 9028-48-2; EC 1.1.1.42

Product Information

Species	Porcine
Source	Porcine heart
Form	Type II, buffered aqueous glycerol solution, Solution in 50% glycerol in EDTA buffer salts, pH 6.0.
EC Number	EC 1.1.1.42
CAS No.	9028-48-2
Activity	Type I, 0.5-3.0 unit/mg solid; Type II, 3-20 units/mg protein.
Unit Definition	One unit will convert 1.0 μmole of iseCitrate to α-ketoglutarate per min at pH 7.4 at 37°C.

Storage and Shipping Information

Storage	−20°C