Creative Enzymes®

Isocitrate Dehydrogenase (NADP+) from Yeast, Recombinant

Cat. No. NATE-0351

Lot. No. (See product label)

Introduction

Description Isocitrate dehydrogenase (IDH) (EC 1.1.1.42) 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 Isocitrate Dehydrogenase (NADP+); EC 1.1.1.42; IDH; Isocitrate Dehydrogenase; Dual-cofactor-specific Isocitrate dehydrogenase; IDP; Isocitrate (NADP) dehydrogenase; Isocitrate (nicotinamide adenine dinucleotide phosphate) dehydrogenase; Isocitrate dehydrogenase (NADP); Isocitrate dehydrogenase (NADP-dependent); NADP isocitric dehydrogenase; NADP (+)-ICDH; NADP (+)-IDH; NADP (+)-linked Isocitrate dehydrogenase; NADP-dependent Isocitrate dehydrogenase; NADP-dependent isocitric dehydrogenase; NADP-linked Isocitrate dehydrogenase; NADP-specific Isocitrate dehydrogenase; Oxalosuccinate decarboxylase; Oxalsuccinic decarboxylase; Triphosphopyridine nucleotide-linked Isocitrate dehydrogenase-oxalosuccinate carboxylase

Product Information

Species Yeast

Source Pichia pastoris

Form Liquid

EC Number EC 1.1.1.42

CAS No. 9028-48-2

Activity r-ICDH activity = 100%

Contaminants NAD+:

Specificity Typically >35 U/mg protein

Storage and Shipping Information

Storage -20°C