

## 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 ( $\alpha$ -ketoglutarate) and CO<sub>2</sub>. 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<sup>+</sup> 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<sup>+</sup> as a cofactor instead of NAD<sup>+</sup>. 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<sup>+</sup>-linked Isocitrate dehydrogenase; IDH (ambiguous); dual-cofactor-specific Isocitrate dehydrogenase; NADP<sup>+</sup>-ICDH; NADP<sup>+</sup>-IDH; IDP; IDP1; IDP2; IDP3; 9028-48-2; EC 1.1.1.42

### Product Information

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

### Storage and Shipping Information

**Storage** -20°C