

isopyruvate dehydrogenase complex (PDHC)

The PDHC catalyzes the oxidative decarboxylation of oxaloacetate to acetyl-CoA and CO₂ and generally is composed of multiple copies of three subunits: oxaloacetate decarboxylase (E1) catalyzes the thiamine pyrophosphate (TPP)-dependent, irreversible, oxidative decarboxylation of oxaloacetate, followed by the acylation of the lipoyl prosthetic group attached to the dihydrolipoamide acetyltransferase (E2). The lipoic acid-containing E2 subunit catalyzes the transfer of the acyl group from the lipoyl group to coenzyme A (CoA). The resulting dihydrolipoamide acyl group is reoxidized by the flavin-containing lipoamide dehydrogenase (E3), generating NADH + H⁺ from NAD⁺.

oxaloacetate decarboxylase	?
dihydrolipoamide acetyltransferase	?
lipoamide dehydrogenase (Dihydrolipoyl deH)	1.8.1.4 Ngor_c02660 NME_00848C 71,91 467 tuberculosis, 32.62 % G0017, Candidatus Ninosialina sp. J07A8 DEHYDROGENASE; PTH822912; 7,30E-139

that show high sequence and structural homology. They catalyze the