

Synonym

IDH1,PICD,IDP

Source

Human IDH1, His Tag (ID1-H51H6) is expressed from E.coli cells. It contains AA Met 1 - Leu 414 (Accession # [O75874-1](#)).

Molecular Characterization

IDH1(Met 1 - Leu 414)
O75874-1

Poly-his

This protein carries a polyhistidine tag at the C-terminus.

The protein has a calculated MW of 48.5 kDa. The protein migrates as 45-48 kDa under reducing (R) condition (SDS-PAGE) due to glycosylation.

Endotoxin

Less than 1.0 EU per μg by the LAL method.

Purity

>95% as determined by SDS-PAGE.

Formulation

Supplied as 0.2 μm filtered solution in 50 mM Tris, 150 mM NaCl, 1 mM TCEP, pH7.5 with glycerol as protectant.

Contact us for customized product form or formulation.

Storage

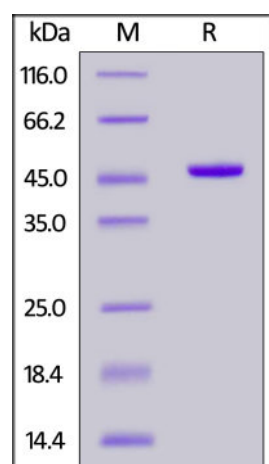
Please avoid repeated freeze-thaw cycles.

This product is stable after storage at:

- The product **MUST** be stored at -70°C or lower upon receipt;
- -70°C for 3 months under sterile conditions.

Shipping

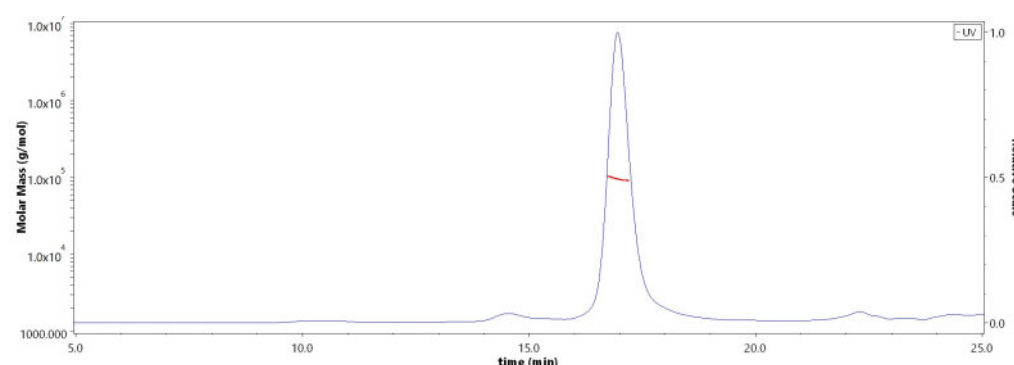
This product is supplied and shipped as sterile liquid solution with dry ice, please inquire the shipping cost.

SDS-PAGE

Human IDH1, His Tag on SDS-PAGE under reducing (R) condition. The gel was stained overnight with Coomassie Blue. The purity of the protein is greater than 95%.

Bioactivity

Measured by the ability to oxidatively decarboxylate isocitrate to 2-oxoglutarate. The specific activity is >10000 pmol/min/ μg , as measured under the described conditions (QC tested).

SEC-MALS

The purity of Human IDH1, His Tag (Cat. No. ID1-H51H6) is more than 85% and the molecular weight of this protein is around 90-100 kDa verified by SEC-MALS.

[Report](#)

Background

The IDH enzymes catalyze the oxidative decarboxylation of isocitrate to alpha-ketoglutarate (α -KG), producing nicotinamide adenine dinucleotide phosphate (NADPH) in the process via the citric acid cycle. Eukaryotic cells express two distinct classes of IDHs that utilize either NAD or NADP as their cofactors and serve diverse biological functions. NAD-dependent IDH is localized to the mitochondrial matrix and is well known for its central role for energy production in the Krebs cycle. NADP-dependent IDHs are primarily located either in mitochondria or cytoplasm. Each NADP-dependent isozyme is a homodimer. Mutations of Arg132 of human IDH1 result in a reduced ability of the enzyme to convert isocitrate to alpha-ketoglutarate, but the enzyme acquires the ability to generate 2-hydroxyglutarate (2HG) from alpha-ketoglutarate, 2-HG is elevated in several tumor types, including a subset of AMLs.

Clinical and Translational Updates

Please contact us via TechSupport@acrobiosystems.com if you have any question on this product.