15-hydroxy Prostaglandin Dehydrogenase (human recombinant)
Item No. 10007950

Overview and Properties

Synonym: 15-hydroxy PGDH
Source: Active human recombinant N-terminal GST-tagged protein expressed in E. coli
Molecular Weight: 55 kDa (29 kDa 15-hydroxy PGDH; 26 kDa GST tag)
Storage: -80°C (as supplied)
Stability: As supplied, 6 months from the QC date provided on the Certificate of Analysis, when stored properly
Purity: batch specific (95% estimated by SDS-PAGE)
Supplied in: 50 mM Tris-HCl, pH 7.5, containing 1 mM EDTA, 1 mM DTT, and 30% glycerol
Protein Concentration: batch specific mg/ml
Activity: batch specific U/ml
Specific Activity: batch specific U/mg
Unit Definition: One unit is defined as the amount of enzyme required to produce 1 nmol of NADH per minute at 37°C in 50 mM Tris-HCl, pH 7.5, 0.1 mM DTT, 50 μM PGE₂, and 1 mM NAD⁺.

Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Image

Lane 1: MW Markers
Lane 2: 15-hydroxy PGDH (2 μg)
Lane 3: 15-hydroxy PGDH (4 μg)

Representative gel image shown; actual purity may vary between each batch.
**Description**

NAD⁺-dependent 15-hydroxy prostaglandin dehydrogenase (15-PGDH) catalyzes the oxidation of PGs to 15-keto metabolites that have greatly reduced biological activity.¹ Human NAD⁺-dependent 15-PGDH is a 266 amino acid protein with a molecular weight of 29 kDa and is expressed in multiple tissues including lung, placenta, and kidney.² The enzyme belongs to a large family of short-chain alcohol dehydrogenases, which exhibit amino acid identity ranging from 15-30%³.⁴ Recent studies indicate 15-PGDH may play a role as a tumor suppressor. Studies have shown an inverse correlation between 15-PGDH expression and cell proliferation in colon, breast, and thyroid cells.⁵⁻⁷ 15-PGDH specific activity was determined using PGE₂ as the substrate and NAD⁺ as the cofactor and was calculated after substracting the mass contribution form the GST tag. The reaction was inhibited using CAY10397.

**References**