

PRODUCT INFORMATION



15-hydroxy Prostaglandin Dehydrogenase D50H variant (human, recombinant)

Item No. 34486

Overview and Properties

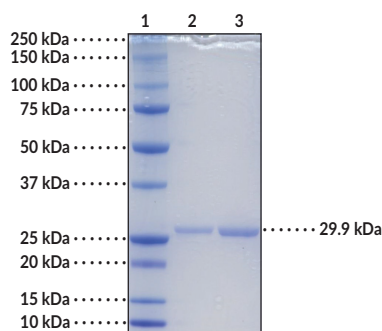
Synonyms: NAD⁺-dependent 15-hydroxy Prostaglandin Dehydrogenase, Prostaglandin Dehydrogenase 1, Short-chain Dehydrogenase/Reductase Family 36C Member 1
Source: Active recombinant human C-terminal His-tagged 15-PGDH expressed in *E. coli*
Amino Acids: 3-256
Uniprot No.: P15428
Molecular Weight: 29.9 kDa
Storage: -80°C (as supplied)
Stability: ≥1 year
Purity: ≥90% estimated by SDS-PAGE
Supplied in: 50 mM potassium phosphate, pH 7.6, with 150 mM sodium chloride, 1 mM EDTA, 0.1 mM DTT, and 5% 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, containing 0.1 mM DTT, 1 mM NAD⁺, and 50 μM prostaglandin E₂ (PGE₂; Item No. 14010).

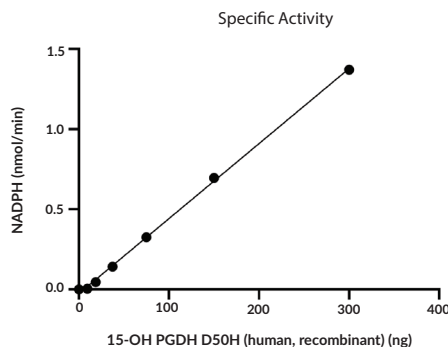
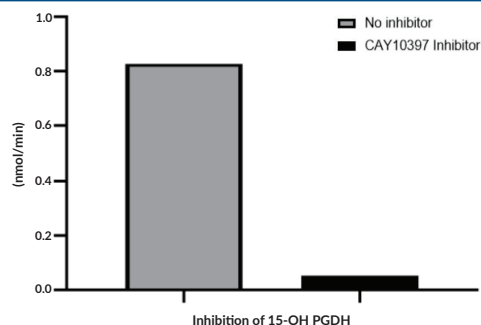
Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Images



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

SDS-PAGE Analysis of 15-PGDH.



WARNING
THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA
This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

WARRANTY AND LIMITATION OF REMEDY
Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

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Description

15-hydroxy Prostaglandin dehydrogenase (15-PGDH) is an enzyme of the short-chain alcohol dehydrogenase family that catalyzes the oxidation of prostaglandins to 15-keto metabolites with reduced biological activity.¹⁻⁴ It uses NAD⁺ as a cofactor and, in addition to PGs, also converts various hydroxy fatty acids, such as HETEs, resolvins, and lipoxins, to less active keto metabolites.⁴⁻⁸ 15-PGDH acts as a tumor suppressor, and restoring *HPGD*, the gene encoding 15-PGDH, expression in human colon cancer cells *in vitro* reduces subsequent tumor formation in mouse xenograft models.⁹⁻¹² Knockout of *Hpgd* or inhibition of 15-PGDH in mice increases hepatic tissue regeneration and induces resistance to ulcerative colitis.¹³ Inhibition of 15-PGDH also increases mitochondrial function and autophagic flux in muscle tissue, as well as increases muscle mass and strength in aged mice.¹⁴ Cayman's 15-PGDH D50H variant (human, recombinant) protein contains an aspartate-to-histidine substitution at position 50 (D50H) and can be used for enzyme assay and Western blot (WB) applications.

References

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