

PRODUCT INFORMATION

15-hydroxy Prostaglandin Dehydrogenase Polyclonal Antibody

Item No. 160615

Overview and Properties

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| Contents: | This vial contains peptide affinity-purified polyclonal antibody. |
| Synonym: | 15-PGDH |
| Immunogen: | Synthetic peptide from an internal region of human 15-PGDH |
| Species Reactivity: | (+) Human, baboon, mouse; other species not tested |
| Uniprot No.: | P15428 |
| Form: | Liquid |
| Storage: | -20°C (as supplied) |
| Stability: | ≥3 years |
| Storage Buffer: | PBS, pH 7.2, with 50% glycerol and 0.02% sodium azide |
| Host: | Rabbit |
| Isotype: | IgG |
| Application: | Western blot (WB); the recommended starting dilution for WB is 1:200. Other applications were not attempted and therefore optimal working dilutions should be determined empirically. |

Description

NAD⁺-dependent 15-PGDH catalyzes the oxidation of prostaglandins to 15-keto metabolites, which 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} An NADP⁺-dependent 15-PGDH, which is also part of this enzyme family, exhibits only 20% amino acid identity to the NAD⁺-dependent enzyme.⁵ The peptide used as the antigen for preparation of the 15-PGDH antibody is highly conserved across several species (see above), but has only minor homology to other proteins within the short-chain alcohol dehydrogenase family of enzymes (only the alanine and glycine at the N-terminus of the sequence appear to be conserved).³ Cayman's 15-PGDH Polyclonal Antibody can be used for Western blot applications. The antibody recognizes 15-PGDH at 29 kDa from human, baboon, and mouse samples.

References

1. Hansen, H.S. 15-Hydroxyprostaglandin dehydrogenase. A review. *Prostaglandins* **12(4)**, 647-679 (1976).
2. Ensor, C.M., Yang, J.Y., Okita, R.T., *et al.* Cloning and sequence analysis of the cDNA for human placental NAD⁺-dependent 15-hydroxyprostaglandin dehydrogenase. *J. Biol. Chem.* **265(25)**, 14888-14891 (1990).
3. Jörnvall, H., Persson, B., Krook, M., *et al.* Short-chain dehydrogenases/reductases (SDR). *Biochemistry* **34(18)**, 6003-6013 (1995).
4. Krook, M., Marekov, L., and Jörnvall, H. Purification and structural characterization of placental NAD⁺-linked 15-hydroxyprostaglandin dehydrogenase. The primary structure reveals the enzyme to belong to the short-chain alcohol dehydrogenase family. *Biochemistry* **29(3)**, 738-743 (1990).
5. Wermuth, B. NADP-dependent 15-hydroxyprostaglandin dehydrogenase is homologous to NAD-dependent 15-hydroxyprostaglandin dehydrogenase and other short-chain alcohol dehydrogenases. *Prostaglandins* **44(1)**, 5-9 (1992).

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.

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