PRODUCT INFORMATION

15-hydroxy Prostaglandin Dehydrogenase Polyclonal Antibody

Item No. 160615

Overview and Properties

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).

CAYMAN CHEMICAL
1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA
PHONE: [800] 364-9897
[734] 971-3335
FAX: [734] 971-3640
CUSTSERV@CAYMANCHEM.COM
WWW.CAYMANCHEM.COM