

PGDH (N-13): sc-48910

BACKGROUND

Prostaglandins are implicated in many physiologic and cellular processes, such as inflammation. NAD⁺-dependent 15-hydroxyprostaglandin dehydrogenase (PGDH) is the fundamental enzyme of prostaglandin degradation. PGDH, an ubiquitous enzyme, strongly reduces the biologic activity of these molecules by catalyzing the oxidation of the 15-hydroxyl group of prostaglandins to a keto group. Cortisol reduces PGDH activity in human placental cells. 11- β -hydroxysteroid dehydrogenase type II (HSD11B2) converts cortisol to cortisone. In preeclampsia, a disorder characterized by high blood pressure and protein in the urine during pregnancy and the postpartum period, HSD11B2 mRNA expression is reduced, leading to a decrease in HSD11B2 activity. Therefore, the diminished conversion of placental cortisol may lead to reduced PGDH mRNA expression by means of an autocrine or paracrine mechanism.

REFERENCES

- Han, X., et al. 1995. Localisation of 15-hydroxyprostaglandin dehydrogenase (PGDH) and steroidogenic enzymes in the equine placenta. *Equine Vet. J.* 27: 334-339.
- Van Meir, C.A., et al. 1996. Immunoreactive 15-hydroxyprostaglandin dehydrogenase (PGDH) is reduced in fetal membranes from patients at preterm delivery in the presence of infection. *Placenta* 17: 291-297.
- Gee, J.R., et al. 2003. Cytokeratin 20, AN43, PGDH and Cox-2 expression in transitional and squamous cell carcinoma of the bladder. *Urol. Oncol.* 21: 266-270.
- Johnson, R.F., et al. 2004. Regulation of 15-hydroxyprostaglandin dehydrogenase (PGDH) gene activity, messenger ribonucleic acid processing and protein abundance in the human chorion in late gestation and labor. *J. Clin. Endocrinol. Metab.* 89: 5639-5648.
- Yan, M., et al. 2004. 15-hydroxyprostaglandin dehydrogenase, a Cox-2 oncogene antagonist, is a TGF β -induced suppressor of human gastrointestinal cancers. *Proc. Natl. Acad. Sci. USA* 101: 17468-17473.

CHROMOSOMAL LOCATION

Genetic locus: HPGD (human) mapping to 4q34.1; Hpgd (mouse) mapping to 8 B2.

SOURCE

PGDH (N-13) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of PGDH of human origin.

PRODUCT

Each vial contains 200 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-48910 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

APPLICATIONS

PGDH (N-13) is recommended for detection of PGDH of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

PGDH (N-13) is also recommended for detection of PGDH in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for PGDH siRNA (h): sc-61330, PGDH siRNA (m): sc-61331, PGDH shRNA Plasmid (h): sc-61330-SH, PGDH shRNA Plasmid (m): sc-61331-SH, PGDH shRNA (h) Lentiviral Particles: sc-61330-V and PGDH shRNA (m) Lentiviral Particles: sc-61331-V.

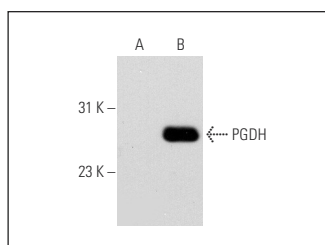
Molecular Weight of PGDH: 30 kDa.

Positive Controls: PGDH (m): 293T Lysate: sc-122517.

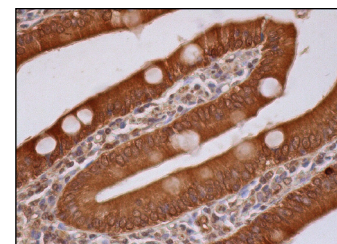
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 4) Immunohistochemistry: use ImmunoCruz™: sc-2053 or ABC: sc-2023 goat IgG Staining Systems.

DATA



PGDH (N-13): sc-48910. Western blot analysis of PGDH expression in non-transfected: sc-117752 (A) and mouse PGDH transfected: sc-122517 (B) 293T whole cell lysates.



PGDH (N-13): sc-48910. Immunoperoxidase staining of formalin fixed, paraffin-embedded human duodenum tissue showing cytoplasmic and nuclear staining of glandular cells.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.