SANTA CRUZ BIOTECHNOLOGY, INC.

PGDH (H-3): sc-271418



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.

CHROMOSOMAL LOCATION

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

SOURCE

PGDH (H-3) is a mouse monoclonal antibody raised against amino acids 1-263 of PGDH of human origin.

PRODUCT

Each vial contains 200 μ g lgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

PGDH (H-3) is available conjugated to agarose (sc-271418 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-271418 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-271418 PE), fluorescein (sc-271418 FITC), Alexa Fluor® 488 (sc-271418 AF488), Alexa Fluor® 546 (sc-271418 AF546), Alexa Fluor® 594 (sc-271418 AF594) or Alexa Fluor® 647 (sc-271418 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-271418 AF680) or Alexa Fluor® 790 (sc-271418 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Alexa Fluor® is a trademark of Molecular Probes, Inc., Oregon, USA

APPLICATIONS

PGDH (H-3) is recommended for detection of PGDH of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

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: A549 cell lysate: sc-2413 or human placenta extract: sc-363772.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker[™] Molecular Weight Standards: sc-2035, UltraCruz[®] Blocking Reagent: sc-516214 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 m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz[®] Mounting Medium: sc-24941 or UltraCruz[®] Hard-set Mounting Medium: sc-359850.

DATA





PGDH (H-3): sc-271418. Near-infrared western blot analysis of PGDH expression in A549 whole cell lysate (**A**) and human placenta tissue extract (**B**). Blocked with UltraCruz[®] Blocking Reagent: sc-516214. Detection reagent used: m-IgGk BP-CFL 680: sc-516180. PGDH (H-3): sc-271418. Immunoperoxidase staining of formalin fixed, paraffin-embedded human urinary bladder tissue showing cytoplasmic and nuclear staining of urothelial cells.

SELECT PRODUCT CITATIONS

- Petersen, C.H., et al. 2019. Possible predisposition for colorectal carcinogenesis due to altered gene expressions in normal appearing mucosa from patients with colorectal neoplasia. BMC Cancer 19: 643.
- 2. Olshina, M.A., et al. 2020. Regulation of the 20S Proteasome by a novel family of inhibitory proteins. Antioxid. Redox Signal. 32: 636-655.
- Rempel, L.M., et al. 2021. Investigations on the potential role of prostaglandin E2 in canine uterine inertia. Theriogenology 175: 134-147.

STORAGE

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

RESEARCH USE

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

PROTOCOLS

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