SANTA CRUZ BIOTECHNOLOGY, INC.

PGD2 synthase (FL-190): sc-30067

BACKGROUND

Human PGD synthase is the key enzyme for production of the D and J series of prostanoids in the immune system and mast cells. This enzyme is the first member of the σ class glutathione S-transferases (GST) from vertebrates and contains a prominent cleft as the active site, which is unique among members of the GST superfamily. The human PGD synthase gene, which maps to chromosome 4q22.3, is expressed in a species-specific manner. For instance, the human gene is widely distributed, whereas the mouse gene is only expressed in oviduct and skin. Human PGD synthase is expressed in the cytoplasm of human megakaryoblastic CMK cells prior to differentiation into platelets, which have no PGD synthase activity. Another member of the PGD synthase family, PGD2 synthase, catalyzes the conversion of PGH2 to PGD2 and is essential for the synthesis of PGD2 in the brain. Unlike PGD synthase, PGD2 synthase is not dependent on the presence of glutathione for its activity. The human PGD2 synthase gene maps to chromosome 9q34.3.

CHROMOSOMAL LOCATION

Genetic locus: PTGDS (human) mapping to 9q34.3; Ptgds (mouse) mapping to 2 A3.

SOURCE

PGD2 synthase (FL-190) is a rabbit polyclonal antibody raised against amino acids 1-190 representing full length PGD2 synthase of human origin.

PRODUCT

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

STORAGE

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

APPLICATIONS

PGD2 synthase (FL-190) is recommended for detection of PGD2 synthase of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg 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).

Suitable for use as control antibody for PGD2 synthase siRNA (h): sc-41640, PGD2 synthase siRNA (m): sc-41641, PGD2 synthase shRNA Plasmid (h): sc-41640-SH, PGD2 synthase shRNA Plasmid (m): sc-41641-SH, PGD2 synthase shRNA (h) Lentiviral Particles: sc-41640-V and PGD2 synthase shRNA (m) Lentiviral Particles: sc-41641-V.

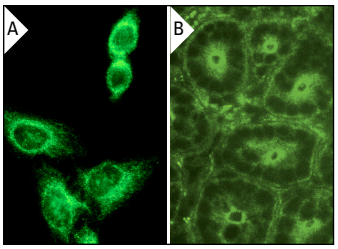
Molecular Weight of PGD2 synthase: 21 kDa.

Positive Controls: mouse heart extract: sc-2254, mouse brain extract: sc-2253 or Hep G2 cell lysate: sc-2227.

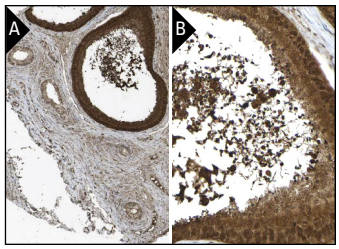
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 4) Immunohistochemistry: use ImmunoCruz™: sc-2051 or ABC: sc-2018 rabbit IgG Staining Systems.

DATA



PGD2 synthase (FL-190): sc-30067. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization (**A**) and normal mouse intestine frozen section showing cytoplasmic staining (**B**).



PGD2 synthase (FL-190): sc-30067. Immunoperoxidase staining of formalin fixed, paraffin-embedded human epididymis tissue showing cytoplasmic staining of glandular cells at low (**A**) and high (**B**) magnification. Kindly provided by The Swedish Human Protein Atlas (HPA) program.

SELECT PRODUCT CITATIONS

1. Chatterjee, V. and Gashev, A.A. 2012. Aging-associated shifts in functional status of mast cells located by adult and aged mesenteric lymphatic vessels. Am. J. Physiol. Heart Circ. Physiol. 303: H693-H702.

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.