SANTA CRUZ BIOTECHNOLOGY, INC.

PGD2 synthase (C-8): sc-514866

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 sigma 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.

REFERENCES

1. Nagata, A., et al. 1991. Human brain prostaglandin D synthase has been evolutionarily differentiated from lipophilic-ligand carrier proteins. Proc. Natl. Acad. Sci. USA 88: 4020-4024.
2. Mahmud, I., et al. 1997. Prostaglandin D synthase in human megakaryoblastic cells. J. Biol. Chem. 272: 28263-28266.
3. Kanaoka, Y., et al. 1997. Cloning and crystal structure of hematopoietic prostaglandin D synthase. Cell 90: 1085-1095.

CHROMOSOMAL LOCATION

Genetic locus: PTGDS (human) mapping to 9q34.3.

SOURCE

PGD2 synthase (C-8) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 165-187 at the C-terminus of PGD2 synthase of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

PGD2 synthase (C-8) is available conjugated to agarose (sc-514866 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to either phycoerythrin (sc-514866 PE), fluorescein (sc-514866 FITC), Alexa Fluor® 488 (sc-514866 AF488), Alexa Fluor® 546 (sc-514866 AF546), Alexa Fluor® 594 (sc-514866 AF594) or Alexa Fluor® 647 (sc-514866 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-514866 AF680) or Alexa Fluor® 790 (sc-514866 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-514866 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

PGD2 synthase (C-8) is recommended for detection of PGD2 synthase of human origin by Western Blotting (starting dilution 1:100, 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) 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 shRNA Plasmid (h): sc-41640-SH and PGD2 synthase shRNA (h) Lentiviral Particles: sc-41640-V.

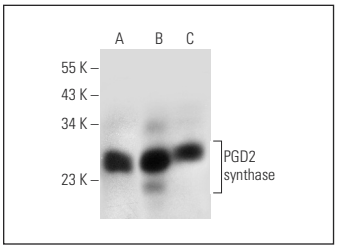
Molecular Weight of PGD2 synthase: 21 kDa.

Positive Controls: human heart extract: sc-363763, human brain tissue extract or human spinal cord tissue extract.

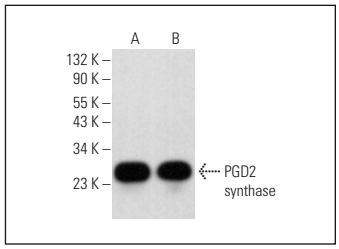
RECOMMENDED SUPPORT REAGENTS

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



PGD2 synthase (C-8): sc-514866. Western blot analysis of PGD2 synthase expression in human brain (**A**), human heart (**B**) and human spinal cord (**C**) tissue extracts.



PGD2 synthase (C-8): sc-514866. Western blot analysis of PGD2 synthase expression in human brain (**A**) and human cerebral cortex (**B**) tissue extracts.

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.