SANTA CRUZ BIOTECHNOLOGY, INC.

PGE synthase 2 (A-2): sc-514224

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

PGE synthase 2, also known as PTGES2, PGES2, prostaglandin E synthase 2, microsomal prostaglandin E synthase 2 (mPGES-2) or GATE-binding factor-1 (GBF1), is a 377 amino acid isomerase that belongs to the GST superfamily and catalyzes the conversion of prostaglandin H2 to prostaglandin E2. Synthesized as a single-pass membrane protein of the Golgi apparatus, PGE synthase 2 becomes cleaved to form a soluble truncated form which is enriched in the perinuclear region. Overexpressed in colorectal cancer, PGE synthase 2 is widely expressed with high levels found in liver, kidney, heart and brain, and may activate IFN-γ transcriptional activity. Containing a glutaredoxin domain and a GST C-terminal domain, PGE synthase 2 exists as a homodimer that interacts with both EXOSC10 and C/EBP β, and is known to bind dihydrolipoic acid as a cofactor.

CHROMOSOMAL LOCATION

Genetic locus: PTGES2 (human) mapping to 9q34.11; Ptges2 (mouse) mapping to 2 B.

SOURCE

PGE synthase 2 (A-2) is a mouse monoclonal antibody raised against amino acids 284-377 mapping at the C-terminus of PGE synthase 2 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.

PGE synthase 2 (A-2) is available conjugated to agarose (sc-514224 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-514224 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-514224 PE), fluorescein (sc-514224 FITC), Alexa Fluor® 488 (sc-514224 AF488), Alexa Fluor® 546 (sc-514224 AF546), Alexa Fluor® 594 (sc-514224 AF594) or Alexa Fluor® 647 (sc-514224 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-514224 AF680) or Alexa Fluor® 790 (sc-514224 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

PGE synthase 2 (A-2) is recommended for detection of PGE synthase 2 of mouse, rat and 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 PGE synthase 2 siRNA (h): sc-92841, PGE synthase 2 siRNA (m): sc-152189, PGE synthase 2 shRNA Plasmid (h): sc-92841-SH, PGE synthase 2 shRNA Plasmid (m): sc-152189-SH, PGE synthase 2 shRNA (h) Lentiviral Particles: sc-92841-V and PGE synthase 2 shRNA (m) Lentiviral Particles: sc-152189-V.

Molecular Weight of PGE synthase 2: 42 kDa.

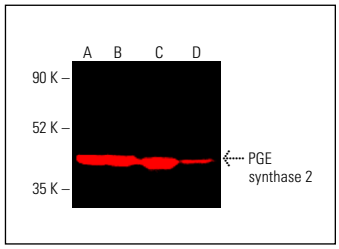
Positive Controls: Jurkat whole cell lysate: sc-2204, HeLa whole cell lysate: sc-2200 or rat brain extract: sc-2392.

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

PGE synthase 2 (A-2): sc-514224. Western blot analysis of PGE synthase 2 expression in MOLT-4 (**A**), Jurkat (**B**), HeLa (**C**), SW480 (**D**), COLO 205 (**E**) and U-937 (**F**) whole cell lysates.



PGE synthase 2 (A-2): sc-514224. Near-Infrared western blot analysis of PGE synthase 2 expression in rat brain (**A**) and rat liver (**B**) tissue extracts and Neuro-2A (**C**) and Jurkat (**D**) whole cell lysates. Blocked with UltraCruz® Blocking Reagent: sc-516214. Detection reagent used: m-IgG_1 BP-CFL 790: sc-533666.

SELECT PRODUCT CITATIONS

1. Sun, X.H. 2017. Protective effects of marrubiin improve endometriosis through suppression of the expression of RANTES. Mol. Med. Rep. 16: 3339-3344.
2. Ong-Meang, V., et al. 2023. Extracellular vesicles produced by the cardiac microenvironment carry functional enzymes to produce lipid mediators *in situ.* Int. J. Mol. Sci. 24: 5866.

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.