SANTA CRUZ BIOTECHNOLOGY, INC.

PGI2 synthase (3B11): sc-293247

BACKGROUND

Prostacyclin (also known as prostaglandin I2) is a potent vasodilator and inhibitor of platelet aggregation. The enzyme PGI2 synthase (also known as prostacyclin synthase) catalyzes the isomerization of prostaglandin H2 (PGH2) to prostacyclin. Although it has absorbance spectral features characteristic of the cytochrome P450s, PGIS has no monooxygenase activity and does not require an external source of electrons to initiate its enzyme reaction. PGI2 synthase is the single member of family 8 of the cytochrome P450 superfamily. PGI2 synthase is a polypeptide of 500 amino acids with sequence homology to cholesterol 7-α-monooxygenase, a member of the CYP7 family of cytochrome P450s. The gene which encodes PGI2 synthase maps to human chromosome 20q13.13.

REFERENCES

1. Miyata, A., Hara, S., Yokoyama, C., Inoue, H., Ullrich, V. and Tanabe, T. 1994. Molecular cloning and expression of human prostacyclin synthase. Biochem. Biophys. Res. Commun. 200: 1728-1734.
2. Wang, L.H. and Chen, L. 1996. Organization of the gene encoding human prostacyclin synthase. Biochem. Biophys. Res. Commun. 226: 631-637.
3. Nelson, D.R., Koymans, L., Kamataki, T., Stegeman, J.J., Feyereisen, R., Waxman, D.J., Waterman, M.R., Gotoh, O., Coon, M.J., Estabrook, R.W., Gunsalus, I.C. and Nebert, D.W. 1996. P450 superfamily: update on new sequences, gene mapping, accession numbers and nomenclature. Pharmacogenetics 6: 1-42.
4. Yokoyama, C., Yabuki, T., Inoue, H., Tone, Y., Hara, S., Hatae, T., Nagata, M., Takahashi, E.I. and Tanabe, T. 1996. Human gene encoding prostacyclin synthase (PTGIS): genomic organization, chromosomal localization, and promoter activity. Genomics 36: 296-304.
5. LocusLink Report (LocusID: 601699). http://www.ncbi.nlm.nih.gov/LocusLink/

CHROMOSOMAL LOCATION

Genetic locus: PTGIS (human) mapping to 20q13.13.

SOURCE

PGI2 synthase (3B11) is a mouse monoclonal antibody raised against amino acids 391-500 of PGI2 synthase of human origin.

PRODUCT

Each vial contains 100 µg IgG_1 kappa light chain 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.

PROTOCOLS

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

APPLICATIONS

PGI2 synthase (3B11) is recommended for detection of PGI2 synthase of 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)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for PGI2 synthase siRNA (h): sc-37236, PGI2 synthase shRNA Plasmid (h): sc-37236-SH and PGI2 synthase shRNA (h) Lentiviral Particles: sc-37236-V.

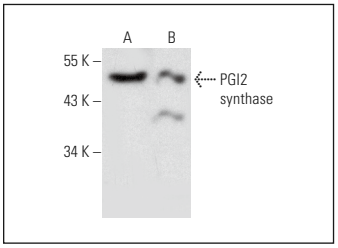
Molecular Weight of PGI2 synthase: 52 kDa.

Positive Controls: PGI2 synthase transfected 293T whole cell lysate.

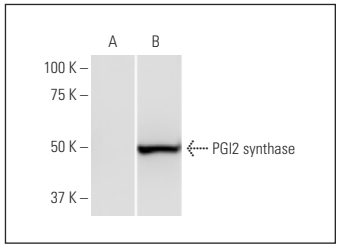
RECOMMENDED SUPPORT REAGENTS

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).

DATA



PGI2 synthase (3B11): sc-293247. Western blot analysis of PGI2 synthase expression in NIH/3T3 (**A**) and A-10 (**B**) whole cell lysates.



PGI2 synthase (3B11): sc-293247. Western blot analysis of PGI2 synthase expression in non-transfected (**A**) and PGI2 synthase transfected (**B**) 293T whole cell lysates.

SELECT PRODUCT CITATIONS

1. Zhang, Y., Yuan, M., Cai, W.B., Sun, W.Y., Shi, X.L., Liu,D.Q., Song, W.H., Yan, Y.Q., Chen, T.N., Bao, Q.K., Zhang, B.Y., Liu, T., Zhu, Y., Zhang, X. and Li, G.P. 2024. Prostaglandin I_2 signaling prevents angiotensin II-induced atrial remodeling and vulnerability to atrial fibrillation in mice. Cell. Mol. Life Sci. 81: 264.

RESEARCH USE

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