

# PGI2 synthase (D-17): sc-31077

## BACKGROUND

Prostacyclin (also known as prostaglandin I<sub>2</sub>) is a potent vasodilator and inhibitor of platelet aggregation. The enzyme PGI<sub>2</sub> synthase (also known as prostacyclin synthase) catalyzes the isomerization of prostaglandin H<sub>2</sub> (PGH<sub>2</sub>) to prostacyclin. Although it has absorbance spectral features characteristic of the cytochrome P450s, PGI<sub>2</sub> has no monooxygenase activity and does not require an external source of electrons to initiate its enzyme reaction. PGI<sub>2</sub> synthase is the single member of family 8 of the cytochrome P450 superfamily. PGI<sub>2</sub> synthase is a polypeptide of 500 amino acids with sequence homology to cholesterol 7- $\alpha$ -monooxygenase, a member of the CYP7 family of cytochrome P450s. The gene which encodes PGI<sub>2</sub> synthase maps to human chromosome 20q13.13.

## REFERENCES

- 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.
- Wang, L.H. and Chen, L. 1996. Organization of the gene encoding human prostacyclin synthase. *Biochem. Biophys. Res. Commun.* 226: 631-637.
- 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.
- 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.
- LocusLink Report (LocusID: 601699). <http://www.ncbi.nlm.nih.gov/LocusLink>

## CHROMOSOMAL LOCATION

Genetic locus: PTGIS (human) mapping to 20q13.13; Ptgis (mouse) mapping to 2 H3.

## SOURCE

PGI<sub>2</sub> synthase (D-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of PGI<sub>2</sub> synthase of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-31077 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## STORAGE

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

## APPLICATIONS

PGI<sub>2</sub> synthase (D-17) is recommended for detection of PGI<sub>2</sub> synthase of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

PGI<sub>2</sub> synthase (D-17) is also recommended for detection of PGI<sub>2</sub> synthase in additional species, including equine, canine and bovine.

Suitable for use as control antibody for PGI<sub>2</sub> synthase siRNA (h): sc-37236, PGI<sub>2</sub> synthase siRNA (m): sc-37237, PGI<sub>2</sub> synthase shRNA Plasmid (h): sc-37236-SH, PGI<sub>2</sub> synthase shRNA Plasmid (m): sc-37237-SH, PGI<sub>2</sub> synthase shRNA (h) Lentiviral Particles: sc-37236-V and PGI<sub>2</sub> synthase shRNA (m) Lentiviral Particles: sc-37237-V.

Molecular Weight of PGI<sub>2</sub> synthase: 52 kDa.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## RESEARCH USE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.



Try **PGI<sub>2</sub> synthase (3B11): sc-293247**, our highly recommended monoclonal alternative to PGI<sub>2</sub> synthase (D-17).