

# PGE synthase (B-6): sc-166309

## BACKGROUND

Prostaglandin E synthase (PGE synthase), also known as PIG12 and MGST1-L1, is a member of protein super family MAPEG, which consists of membrane associated proteins involved in eicosanoid and glutathione metabolism. The expression of this membrane-associated protein can be induced by the proinflammatory cytokine, IL-1 $\beta$ . PGE synthase is expressed in seminal vesicles, deferent ducts, kidney, heart and spleen. The enzyme activity of PGE synthase in most organs is glutathione-dependent. PGE synthase may play a significant role in the progression of Alzheimer's disease. Human PGE synthase is localized to chromosome 9q34.11.

## REFERENCES

1. Ogino, N., et al. 1977. Prostaglandin endoperoxide E isomerase from bovine vesicular gland microsomes, a glutathione-requiring enzyme. *J. Biol. Chem.* 252: 890-895.
2. Tanaka, Y., et al. 1987. Immunochemical and kinetic evidence for two different prostaglandin H-prostaglandin E isomerases in sheep vesicular gland microsomes. *J. Biol. Chem.* 262: 1374-1381.
3. Watanabe, K., et al. 1997. Two types of microsomal prostaglandin E synthase: glutathione-dependent and -independent prostaglandin E synthases. *Biochem. Biophys. Res. Commun.* 235: 148-152.
4. Jakobsson, P.J., et al. 1999. Common structural features of MAPEG—a widespread superfamily of membrane associated proteins with highly divergent functions in eicosanoid and glutathione metabolism. *Protein Sci.* 8: 689-692.
5. Jakobsson, P.J., et al. 1999. Identification of human prostaglandin E synthase: a microsomal, glutathione-dependent, inducible enzyme, constituting a potential novel drug target. *Proc. Natl. Acad. Sci. USA* 96: 7220-7225.
6. Forsberg, L., et al. 2000. Human glutathione dependent prostaglandin E synthase: gene structure and regulation. *FEBS Lett.* 471: 78-82.
7. Satoh, K., et al. 2000. Expression of prostaglandin E synthase mRNA is induced in  $\beta$ -Amyloid treated rat astrocytes. *Neurosci. Lett.* 283: 221-223.

## CHROMOSOMAL LOCATION

Genetic locus: PTGES (human) mapping to 9q34.11.

## SOURCE

PGE synthase (B-6) is a mouse monoclonal antibody raised against amino acids 1-152 representing full length PGE synthase of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g 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.

## APPLICATIONS

PGE synthase (B-6) is recommended for detection of PGE synthase of human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g 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 PGE synthase siRNA (h): sc-41642, PGE synthase shRNA Plasmid (h): sc-41642-SH and PGE synthase shRNA (h) Lentiviral Particles: sc-41642-V.

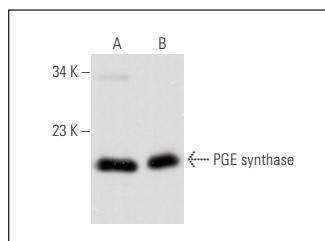
Molecular Weight of PGE synthase: 17 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, U-87 MG cell lysate: sc-2411 or SW480 cell lysate: sc-2219.

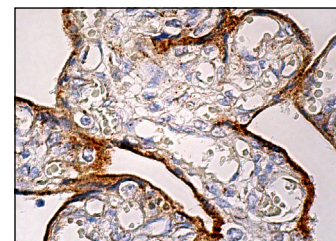
## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  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-IgG $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgG $\kappa$  BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

## DATA



PGE synthase (B-6): sc-166309. Western blot analysis of PGE synthase expression in SW480 (A) and U-87 MG (B) whole cell lysates.



PGE synthase (B-6): sc-166309. Immunoperoxidase staining of formalin fixed, paraffin-embedded human placenta tissue showing cytoplasmic staining of trophoblastic cells.

## SELECT PRODUCT CITATIONS

1. Cao, B., et al. 2017. A network-based predictive gene-expression signature for adjuvant chemotherapy benefit in stage II colorectal cancer. *BMC Cancer* 17: 844.

## RESEARCH USE

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