

Product Information



Prostaglandin E Synthase-1 (microsomal) (human recombinant)

Catalog No. 10007939 • Lot No. XXXX

Synonym:	Membrane-Associated PGES-1, MGST1-L1, mPGE Synthase-1, PIG12, Prostaglandin H/E Isomerase
Source:	Recombinant enzyme isolated from a baculovirus overexpression system in Sf21 cells
M_r:	~21 kDa
Purity:	16,000 x g supernatant
Stability:	≥6 months at -80°C
Supplied in:	50 mM sodium phosphate, pH 7.2, containing 100 mM sodium chloride and 20% glycerol
Protein Concentration:	XX mg/ml
Activity:	XX U/ml
Specific Activity:	XX nmoles/min/mg. One unit is defined as the amount of enzyme required to produce 1 nmole of PGE ₂ per minute at 25°C in 100 mM sodium phosphate pH 7.2, containing 2.5 mM GSH, 1 mM EDTA, 5 mM Triton X-100, and 40 μM PGH ₂ .

Prostaglandin E synthases (PGESs) are enzymes that convert cyclooxygenase (COX)-derived PGH₂ to PGE₂.¹ There are three different PGES enzymes with distinct enzymatic properties, modes of expression, cellular and subcellular localizations, and intracellular functions, two of which are membrane-bound enzymes and have been designated as mPGES-1 and mPGES-2. mPGES-1 is a perinuclear protein belonging to the membrane-associated proteins involved in eicosanoid and glutathione metabolism (MAPEG) superfamily.² It requires glutathione as an essential cofactor for activity. mPGES-1 is up-regulated in response to various proinflammatory stimuli with a concomitant increased expression of COX-2 and is down-regulated by glucocorticoids.³ mPGES-1 gene knockout studies in mice have indicated a role for mPGES-1-generated PGE₂ in female reproduction, inflammation, pain, fever, anorexia, atherosclerosis, stroke, and tumorigenesis. Therefore, mPGES-1 is a potential drug target for various diseases.¹

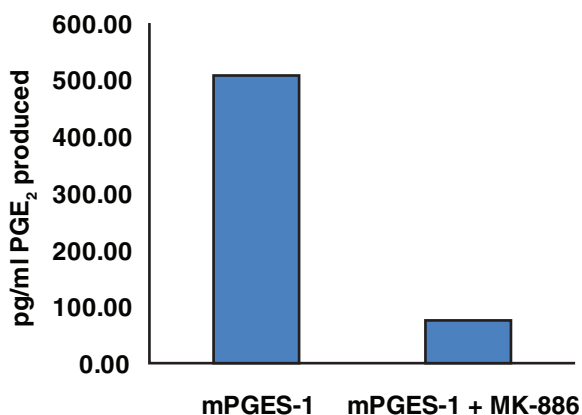


Figure 1. Inhibition of mPGES-1 activity by MK-886



Figure 2. Western blot of mPGES-1 probed using Cayman's mPGES-1 Polyclonal Antibody (Catalog No. 160140)

References

1. Friesen, R.W. and Mancini, J.A. *J. Med. Chem.* **51**(14), 4059-4067 (2008).
2. Ouellet, M., Falgueyret, J.-P., Ear, P.H., *et al. Protein Expression and Purification* **26**, 489-495 (2002).
3. Forsberg, L., Leeb, L., Thorén, S., *et al. FEBS Lett.* **471**, 78-82 (2000).

Related Products

Prostaglandin E Synthase-1 (microsomal) Polyclonal Antibody - Cat. No. 160140 • Prostaglandin E Synthase-1 (microsomal) Monoclonal Antibody - Cat. No. 10004350

WARNING: THIS PRODUCT IS FOR LABORATORY RESEARCH ONLY: NOT FOR ADMINISTRATION TO HUMANS. NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

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