

Human Prostaglandin E Synthase 2/ PTGES2 Antibody

Antigen Affinity-purified Polyclonal Sheep IgG
Catalog Number: AF7627

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human Prostaglandin E Synthase 2/PTGES2 in direct ELISAs and Western blots.
Source	Polyclonal Sheep IgG
Purification	Antigen Affinity-purified
Immunogen	<i>E. coli</i> -derived recombinant human Prostaglandin E Synthase 2/PTGES2 Glu88-His377 Accession # Q9H7Z7
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied either lyophilized or as a 0.2 µm filtered solution in PBS.

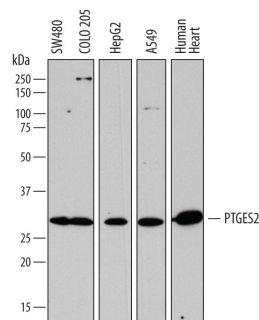
APPLICATIONS

Please Note: Optimal dilutions should be determined by each laboratory for each application. [General Protocols](#) are available in the Technical Information section on our website.

	Recommended Concentration	Sample
Western Blot	1 µg/mL	See Below
Immunohistochemistry	0.3-15 µg/mL	See Below
Simple Western	10 µg/mL	See Below

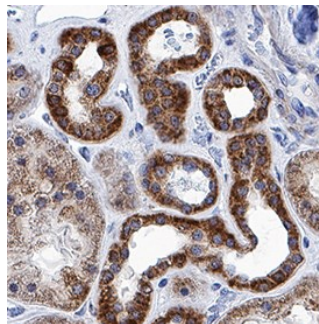
DATA

Western Blot



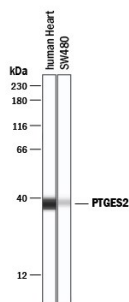
Detection of Human Prostaglandin E Synthase 2/PTGES2 by Western Blot.
Western blot shows lysates of SW480 human colorectal adenocarcinoma cell line, COLO 205 human colorectal adenocarcinoma cell line, HepG2 human hepatocellular carcinoma cell line, A549 human lung carcinoma cell line, and human heart tissue. PVDF membrane was probed with 1 µg/mL of Sheep Anti-Human Prostaglandin E Synthase 2/PTGES2 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF7627) followed by HRP-conjugated Anti-Sheep IgG Secondary Antibody (Catalog # HAF016). A specific band was detected for Prostaglandin E Synthase 2/PTGES2 at approximately 30-32 kDa (as indicated). This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 1.

Immunohistochemistry



Prostaglandin E Synthase 2/PTGES2 in Human Kidney.
Prostaglandin E Synthase 2/PTGES2 was detected in immersion fixed paraffin-embedded sections of human kidney using Sheep Anti-Human Prostaglandin E Synthase 2/PTGES2 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF7627) at 0.3 µg/mL for 1 hour at room temperature followed by incubation with the Anti-Sheep IgG VisUCyte™ HRP Polymer Antibody (Catalog # VC006). Tissue was stained using DAB (brown) and counterstained with hematoxylin (blue). Specific staining was localized to cytoplasm in convoluted tubules. View our protocol for IHC Staining with VisUCyte HRP Polymer Detection Reagents.

Simple Western



Detection of Human Prostaglandin E Synthase 2/PTGES2 by Simple Western™

Simple Western lane view shows lysates of human heart tissue and SW480 human colorectal adenocarcinoma cell line, loaded at 0.2 mg/mL. A specific band was detected for Prostaglandin E Synthase 2/PTGES2 at approximately 38 kDa (as indicated) using 10 µg/mL of Sheep Anti-Human Prostaglandin E Synthase 2/PTGES2 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF7627) followed by 1:50 dilution of HRP-conjugated Anti-Sheep IgG Secondary Antibody (Catalog # HAF016). This experiment was conducted under reducing conditions and using the 12-230 kDa separation system.



PREPARATION AND STORAGE

Reconstitution	Sterile PBS to a final concentration of 0.2 mg/mL.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
Stability & Storage	<p>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</p> <ul style="list-style-type: none"> • 12 months from date of receipt, -20 to -70 °C as supplied. • 1 month, 2 to 8 °C under sterile conditions after reconstitution. • 6 months, -20 to -70 °C under sterile conditions after reconstitution.

BACKGROUND

PTGES2 (Prostaglandin E Synthase 2; also C9orf15, GBF-1 and mPGES2) is a 32 kDa member of the GST superfamily of molecules. It is a constitutively expressed, integral membrane protein embedded in the Golgi apparatus, and is found in select cell types, including striated muscle cells, neurons, hepatocytes and astrocytes and endothelium. PTGES2 is proposed to lie at the end of a PGE2 synthetic pathway. PLA2S is known to first releases arachidonic acid (AA) from membrane phospholipids. This AA is next converted to PGH2 by COX-1/-2, and the PGH2 is then potentially isomerized into PGE2 by PTGES type enzymes. Notably, PTGES2 is not a glutathione-dependent enzyme, and some evidence suggests it is not a functional prostaglandin synthase. Human PTGES2 is potentially a 377 amino acid (aa) type III (no signal sequence) transmembrane protein. It contains a 57 aa luminal region, a 17 aa transmembrane segment (aa 58-74) and a 303 aa cytoplasmic domain (aa 75-377). There is one glutaredoxin domain (aa 90-193) and a GST-like region (aa 263-377). Proteolytic cleavage between Ala87Glu88 of 42-43 kDa full-length PTGES2 generates a soluble 32 kDa short form that localizes perinuclearly. There are two potential alternative splice forms. One contains a 19 aa insertion after Ser159, while a second utilizes an alternative start site at Met192. Over aa 88-377, human PTGES2 shares 91% aa sequence identity with mouse PTGES2.