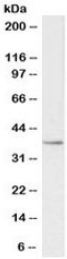
PTGR1 Antibody / Prostaglandin reductase 1 (R36440)

Catalog No.	Formulation	Size
R36440-100UG	0.5 mg/ml in 1X TBS, pH7.3, with 0.5% BSA (US sourced) and 0.02% sodium azide	100 ug

Bulk quote request

Availability	1-3 business days
Species Reactivity	Human
Format	Antigen affinity purified
Host	Goat
Clonality	Polyclonal (goat origin)
Isotype	Goat Ig
Purity	Antigen affinity
Gene ID	22949
Applications	Western blot: 0.3-1ug/ml ELISA (peptide) LOD: 1:128000
Limitations	This PTGR1 antibody is available for research use only.



PTGR1 Antibody Human Kidney Western Blot. Western blot analysis of human kidney lysate using PTGR1 Antibody at 0.3 Âµg/ml demonstrates a distinct band at approximately 36-38 kDa, consistent with the predicted molecular weight of Prostaglandin Reductase 1 (PTGR1). PTGR1 is a NADP-dependent oxidoreductase involved in prostaglandin and leukotriene metabolism, helping regulate eicosanoid signaling pathways associated with inflammation, oxidative stress responses, and lipid mediator turnover. Detection of the expected molecular weight band in human kidney tissue supports expression of PTGR1 and the suitability of this antibody for western blot applications.

Description

PTGR1 antibody is useful for studying PTGR1, a NADP-dependent oxidoreductase that plays an important role in the metabolism and inactivation of prostaglandins, leukotrienes, and other bioactive lipid mediators. PTGR1 is best known for catalyzing key steps in eicosanoid catabolism, helping regulate the biologic activity of inflammatory signaling molecules and maintain balanced lipid-mediated cellular communication. Through its enzymatic activity, PTGR1 contributes to the control of inflammatory responses, tissue homeostasis, and cellular adaptation to physiologic stress.

PTGR1 is also known as Leukotriene B4 12-Hydroxydehydrogenase due to its ability to metabolize leukotriene B4, a potent inflammatory mediator involved in immune cell recruitment and activation. This dual role in both prostaglandin and leukotriene metabolism places PTGR1 at a critical intersection of eicosanoid regulatory pathways. By limiting the persistence of bioactive lipid signals, PTGR1 helps prevent excessive inflammatory activity and supports the normal resolution of inflammatory processes.

Expression of PTGR1 has been reported in a variety of tissues and cell types associated with active lipid metabolism and inflammatory regulation. The protein is predominantly localized within the cytoplasm, where it participates in the enzymatic processing of lipid-derived signaling molecules. Because prostaglandins and leukotrienes influence cellular proliferation, apoptosis, angiogenesis, immune regulation, and tissue remodeling, PTGR1 has attracted significant interest in studies of inflammation, cancer biology, and metabolic disease.

Alterations in eicosanoid metabolism have been implicated in numerous pathologic conditions, including chronic inflammatory disorders, cardiovascular disease, and tumor progression. As a result, PTGR1 is increasingly investigated as a biomarker and regulatory factor within pathways that connect inflammation, oxidative stress, and cellular metabolism. Research involving PTGR1 may provide insight into mechanisms that govern lipid mediator turnover, inflammatory signaling intensity, and disease-associated metabolic networks.

Beyond its established role in eicosanoid metabolism, PTGR1 has been implicated in cellular responses to oxidative stress and electrophilic compounds. The enzyme participates in pathways that influence redox homeostasis and may contribute to cellular defense mechanisms against reactive lipid metabolites generated during inflammation and tissue injury. Because these processes are frequently altered in cancer and chronic inflammatory diseases, PTGR1 has attracted interest as a potential modulator of disease-associated metabolic adaptation. Ongoing research continues to examine how PTGR1 activity affects tumor cell survival, inflammatory signaling networks, and the biologic consequences of dysregulated lipid mediator metabolism.

Interest in PTGR1 has also expanded due to its potential relevance in therapeutic response and drug metabolism research. As lipid signaling pathways continue to emerge as important regulators of disease progression, enzymes that control eicosanoid turnover have become valuable subjects of investigation. Understanding PTGR1 expression and activity may provide insight into mechanisms that influence inflammation-associated tissue remodeling, metabolic adaptation, and cellular responses to environmental stressors.

PTGR1 antibodies are commonly used in western blotting, immunohistochemistry, immunofluorescence, flow cytometry, and related protein detection applications. These reagents support investigations of prostaglandin metabolism, leukotriene signaling, inflammatory responses, cancer biology, oxidative stress pathways, and metabolic regulation. PTGR1 antibody tools help researchers characterize protein expression, cellular localization, and the biologic functions of this important eicosanoid metabolism enzyme. PTGR1 antibodies may also assist studies evaluating lipid mediator turnover, inflammation-associated tissue remodeling, and the molecular mechanisms that connect metabolic signaling pathways with disease progression.

Researchers studying prostaglandin metabolism, leukotriene signaling, and lipid regulatory pathways may also be interested in our broader Metabolism Antibody collection.

Application Notes

Optimal dilution of the PTGR1 antibody should be determined by the researcher.

Immunogen

Amino acids PTNSDFELKTAELP were used as the immunogen for this PTGR1 antibody.

Storage

Aliquot and store the PTGR1 antibody at -20oC.

Alternate Names

Prostaglandin Reductase 1 Antibody, Leukotriene B4 12-Hydroxydehydrogenase Antibody, LTB4 12-HD Antibody, Eicosanoid Metabolism Enzyme Antibody, Prostaglandin Catabolism Enzyme Antibody, NADP-dependent Oxidoreductase Antibody

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