

Recombinant Full Length Human PTGS2 Protein, C-His-tagged

Cat. No. PTGS2-13HFL **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Recombinant Full Length Human PTGS2 Protein, fused to His-tag at C-terminus, was expressed in Sf21 (baculovirus).
Species	Human
Source	Insect cells
ProteinLength	Ala18-Leu604
Description	Cyclooxygenase 2 (COX-2), also known as Prostaglandin synthase 2 (PTGS2), is a dimeric, heme-dependent enzyme where the dimer is formed from two monomers each containing an N-terminal EGF-like domain, a membrane binding domain and a C-terminal catalytic domain. COX-2 catalyzes the conversion of arachidonate to prostaglandin H2 through a two-step reaction, representing the rate-limiting enzyme in the biosynthesis of prostanoids. Altered levels of prostaglandins are associated with several disease pathologies. There are two major isozymes of PTGS with slightly differing substrate preferences; PTGS1 represents the constitutively expressed form while PTGS2 basal expression is present in a limited number of tissues such as inflammatory cells. PTGS2 is upregulated in chronic and acute inflammation as well as in most types of cancers resulting in increased rate of recurrence, reduction in survival, and increased resistance to chemo and radiotherapy through the role it plays in multiple pathways and mechanisms. Inhibition of PTGS2 is a promising therapeutic target to reduce cancer risk. COX-2 is a pharmacological target of nonsteroidal anti-inflammatory drugs (NSAIDS) and COX-2 selective inhibitors (coxibs) as well as other

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	categories of inhibitors through multiple mechanisms of action. It remains an attractive target for novel specific inhibitor development as inhibition shows equivalent efficacy to use of conventional NSAIDs, but with reduced negative side effects.
Form	Supplied as a 0.2 µm filtered solution in Tris, NaCl, CHAPS and Glycerol.
Bio-activity	Measured by its ability to convert arachidonic acid to prostaglandin H2.
Molecular Mass	Predicted Molecular Mass: 60 kDa SDS-PAGE: 65-71 kDa, reducing conditions
Endotoxin	<1.0 EU per 1 µg of the protein by the LAL method.
Purity	>90%, by SDS-PAGE visualized with Silver Staining and quantitative densitometry by Coomassie® Blue Staining.
Storage	Use a manual defrost freezer and avoid repeated freeze-thaw cycles. 6 months from date of receipt, -20 to -70 centigrade as supplied. 3 months, -20 to -70 centigrade under sterile conditions after opening.
Shipping	The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.
N-terminal Sequence	Ala18
References	1. Orlando, B.J. et al. (2015) J. Struct. Biol. 189:62. 2. Su, C.W. et al. (2016) Crit. Rev. Oncol. Hematol. 107:33. 3. Gurram, B. et al. (2018) Anal. Chem. 90:5187. 4. Montezuma, M.A.P. et al. (2018) Pathol. Res. Pract. 214:907. 5. Hoing, B. et al. (2018) Oncotarget 9:8415.

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7. Hashemi Goradel, N. et al. (2019) J. Cell Physiol. 234:5683.
8. Brizzolara, A. et al. (2017) Cancer Letters 400:9.
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10. Ferrer, M.D. et al. (2019) Curr. Med. Chem. 26:3225.
11. Carullo, G. et al. (2016) Medchemcomm. 8:492.

GENE INFORMATION

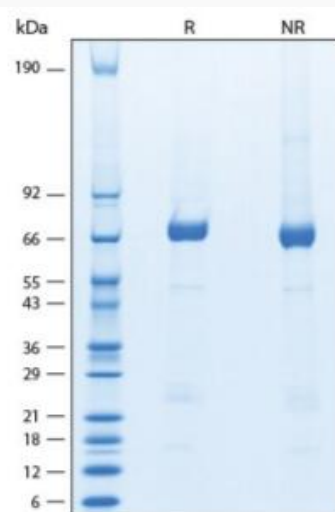
Gene Name	PTGS2 prostaglandin-endoperoxide synthase 2 [Homo sapiens (human)]
Official Symbol	PTGS2
Synonyms	PTGS2; prostaglandin-endoperoxide synthase 2; COX2; COX-2; COX2cyclooxygenase 2b; cyclooxygenase-2; EC 1.14.99; EC 1.14.99.1; GRIPGHS; hCox-2; PGG/HS; PGH synthase 2; PGHS-2; PHS II; PHS-2; PHS-II; prostaglandin G/H synthase 2; prostaglandin G/H synthase and cyclooxygenase; Prostaglandin H2 synthase 2; prostaglandin-endoperoxide synthase 2 (prostaglandin G/H synthase andcyclooxygenase)
Gene ID	5743
mRNA Refseq	NM_000963.4
Protein Refseq	NP_000954.1
MIM	600262
UniProt ID	P35354

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SDS-PAGE



Recombinant Human COX-2 His-tag Protein SDS-PAGE.

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