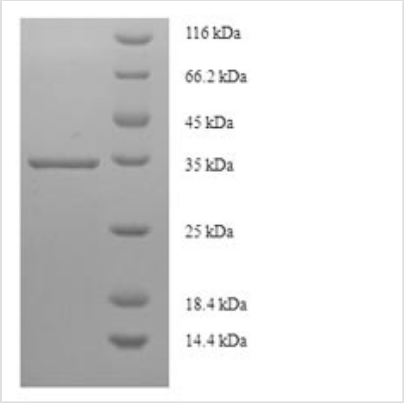
Recombinant Human Prostaglandin-H2 D-isomerase (PTGDS)

Product Code	CSB-EP018969HU
Relevance	Catalyzes the conversion of PGH2 to PGD2, a prostaglandin involved in smooth muscle contraction/relaxation and a potent inhibitor of platelet aggregation. Involved in a variety of CNS functions, such as sedation, NR sleep and PGE2-induced allodynia, and may have an anti-apoptotic role in oligodendrocytes. Binds small non-substrate lipophilic molecules, including biliverdin, bilirubin, retinal, retinoic acid and thyroid hormone, and may act as a scavenger for harmful hydrophopic molecules and as a secretory retinoid and thyroid hormone transporter. Possibly involved in development and maintenance of the blood-brain, blood-retina, blood-aqueous humor and blood-testis barrier. It is likely to play important roles in both maturation and maintenance of the central nervous syst and male reproductive syst.
Abbreviation	Recombinant Human PTGDS protein
Storage	The shelf life is related to many factors, storage state, buffer ingredients, storage temperature and the stability of the protein itself. Generally, the shelf life of liquid form is 6 months at -20°C/-80°C. The shelf life of lyophilized form is 12 months at -20°C/-80°C.
Uniprot No.	P41222
Alias	Beta-trace protein;Cerebrin-28Glutathione-independent PGD synthaseLipocalin-type prostaglandin-D synthaseProstaglandin-D2 synthase ;PGD2 synthase ;PGDS ;PGDS2
Product Type	Recombinant Protein
Immunogen Species	Homo sapiens (Human)
Purity	Greater than 90% as determined by SDS-PAGE.
Sequence	APEAQVSVQPNFQQDKFLGRWFSAGLASNSSWLREKKAALSMCKSVVAPAT DGGLNLTSTFLRKNQCETRTMLLQPAGSLGSYSYRSPHWGSTYSVSVVETDY DQYALLYSQGSKGPGEDFRMATLYSRTQTPRAELKEKFTAFCKAQGFTEDTIV FLPQTDKCMTEQ
Research Area	Metabolism
Source	E.coli
Target Names	PTGDS
Expression Region	23-190aa
Notes	Repeated freezing and thawing is not recommended. Store working aliquots at 4°C for up to one week.
Tag Info	N-terminal 6xHis-SUMO-tagged
Mol. Weight	34.7kDa

Protein Length	Full Length of Mature Protein

Image



(Tris-Glycine gel) Discontinuous SDS-PAGE (reduced) with 5% enrichment gel and 15% separation gel.

Description

The expression region of this recombinant Human PTGDS covers amino acids 23-190. The calculated molecular weight for this PTGDS protein is 34.7 kDa. Expression of this PTGDS protein is conducted in e.coli. The PTGDS coding gene included the N-terminal 6xHis-SUMO tag, which simplifies the detection and purification processes of the recombinant PTGDS protein in following stages of expression and purification.

Prostaglandin-H2 D-isomerase (PTGDS) is an enzyme involved in the biosynthesis of prostaglandin D2 (PGD2). PTGDS belongs to the lipocalin protein family and is primarily expressed in the central nervous system, particularly in the brain and cerebrospinal fluid. The main function of PTGDS is the isomerization of PGH2 to PGD2, which plays a role in various physiological processes, including inflammation and sleep regulation. PGD2 is associated with sleep-wake cycles, and PTGDS has been implicated in sleep-related functions. Additionally, PTGDS has been studied in the context of neuroinflammation, and neurodegenerative diseases, and as a potential biomarker for certain neurological conditions. Understanding the role of PTGDS in prostaglandin metabolism and its broader implications in neurological processes is essential for unraveling its potential therapeutic applications and furthering knowledge of neurobiology.

Reconstitution	We recommend that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. Please reconstitute protein in deionized sterile water to a concentration of 0.1-1.0 mg/mL.We recommend to add 5-50% of glycerol (final concentration) and aliquot for long-term storage at -20°C/-80°C. Our default final concentration of glycerol is 50%. Customers could use it as reference.
Shelf Life	The shelf life is related to many factors, storage state, buffer ingredients, storage temperature and the stability of the protein itself. Generally, the shelf life of liquid form is 6 months at -20°C/-80°C. The shelf life of lyophilized form is 12 months at -20°C/-80°C.