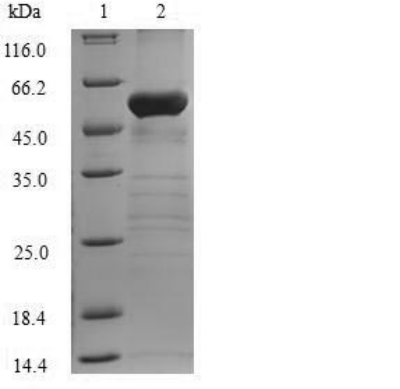
Recombinant Human Fructose-1,6-bisphosphatase 1 (FBP1)

Product Code	CSB-EP008459HU
Relevance	Catalyzes the hydrolysis of fructose 1,6-bisphosphate to fructose 6-phosphate in the presence of divalent cations, acting as a rate-limiting enzyme in gluconeogenesis. Plays a role in regulating glucose sensing and insulin secretion of pancreatic beta-cells. Appears to modulate glycerol gluconeogenesis in liver. Important regulator of appetite and adiposity; increased expression of the protein in liver after nutrient excess increases circulating satiety hormones and reduces appetite-stimulating neuropeptides and thus seems to provide a feedback mechanism to limit weight gain.
Abbreviation	Recombinant Human FBP1 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.	P09467
Alias	D-fructose-1,6-bisphosphate 1-phosphohydrolase 1 Liver FBPase
Product Type	Recombinant Protein
Immunogen Species	Homo sapiens (Human)
Purity	Greater than 90% as determined by SDS-PAGE.
Sequence	ADQAPFDTDVNTLTRFVMEEGRKARGTGELTQLLNSLCTAVKAISSAVRKAGI AHLYGIAGSTNVTGDQVKKLDVLSNDLVMNMLKSSFATCVLVSEEDKHAIIVEP EKRGKYVVCFDPLDGSSNIDCLVSVGTIFGIYRKKSTDEPSEKDALQPGRNLVA AGYALYGSATMLVLAMDCGVNCFMLDPAIGEFILVDKDVKIKKKGKIYSLNEGY ARDFDPAVTEYIQRKKFPPDNSAPYGARYVGSMVADVHRTLVYGGIFLYPANK KSPNGKLRLLYECNPMAYVMEKAGGMATTGKEAVLDVIPTDIHQRAPVILGSP DDVLEFLKVYEKHSAQ
Research Area	Epigenetics and Nuclear Signaling
Source	E.coli
Target Names	FBP1
Protein Names	Recommended name: Fructose-1,6-bisphosphatase 1 Short name= FBPase 1 EC= 3.1.3.11 Alternative name(s): D-fructose-1,6-bisphosphate 1-phosphohydrolase 1
Expression Region	2-338aa
Notes	Repeated freezing and thawing is not recommended. Store working aliquots at 4°C for up to one week.
Tag Info	N-terminal 10xHis-SUMO-tagged and C-terminal Myc-tagged

Mol. Weight	56.7kDa
Protein Length	Full Length of Mature Protein

Image



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

Description

Amino acids 2-338 constitute the expression domain of recombinant Human FBP1. The theoretical molecular weight of the FBP1 protein is 56.7 kDa. This FBP1 recombinant protein is manufactured in e.coli. The FBP1 gene fragment has been modified by fusing the N-terminal 10xHis-SUMO tag and C-terminal Myc tag, providing convenience in detecting and purifying the recombinant FBP1 protein during the following stages.

Human Fructose-1,6-Bisphosphatase 1 (FBP1) is a key enzyme in gluconeogenesis, playing a pivotal role in maintaining glucose homeostasis. FBP1 catalyzes the hydrolysis of fructose-1,6-bisphosphate to fructose-6-phosphate and inorganic phosphate, a critical step in the generation of glucose from non-carbohydrate precursors. Beyond its role in gluconeogenesis, FBP1 is implicated in various physiological processes, including hepatic glucose production, energy metabolism, and insulin sensitivity. Dysregulation of FBP1 is associated with metabolic disorders, such as type 2 diabetes. Research areas involving FBP1 encompass metabolic pathways, glucose metabolism, and potential therapeutic interventions for metabolic diseases. Understanding FBP1 function contributes to unraveling the complexities of metabolic regulation.

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.