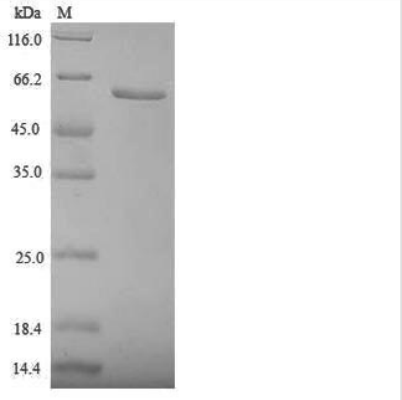
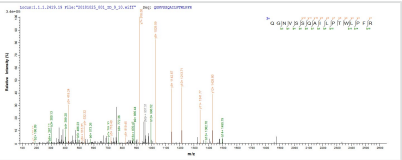
Recombinant Human Zona pellucida sperm-binding protein 3 (ZP3), partial

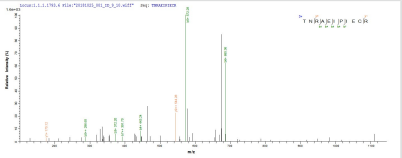
Product Code	CSB-EP027121HU
Relevance	The mammalian zona pellucida, which mediates species-specific sperm binding, induction of the acrosome reaction and prevents post-fertilization polyspermy, is composed of three to four glycoproteins, ZP1, ZP2, ZP3, and ZP4. ZP3 is essential for sperm binding and zona matrix formation.
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.	P21754
Storage Buffer	Tris-based buffer,50% glycerol
Alias	Sperm receptor ZP3A/ZP3B Zona pellucida glycoprotein 3 Short name:Zp-3 Zona pellucida protein C Cleaved into the following chain: Processed zona pellucida sperm-binding protein 3
Product Type	Recombinant Protein
Immunogen Species	Homo sapiens (Human)
Purity	Greater than 90% as determined by SDS-PAGE.
Sequence	QPLWLLQGGASHPETSVQPVLVECQEATLMVMVSKDLFGTGKLIRAADLTLGP EACEPLVSMDTEDVVRFEVGLHECGNSMQVTDDALVYSTFLLHDPRPVGNLSI VRTNRAEIPIECRYPRQGNVSSQAILPTWLPFRTTVFSEEKLTFSLRLMEENWN AEKRSPTFHLGDAAHLQAEIHTGSHVPLRLFVDHCVATPTPDQNASPYHTIVDF HGCLVDGLTDASSAFKVPRPGPDTLQFTVDVFHFANDSRNMIYITCHLKVTLAE QDPDELNKACSFSKPSNSWFPVEGSADICQCCNKGDCGTPSHSRRQPHVMS QWSRSASRNRRHVTEEADVTVGPLIFLDRRGDHEVEQWALPSDTSV
Lead Time	3-7 business days
Research Area	Developmental Biology
Source	E.coli
Gene Names	ZP3
Expression Region	23-387aa
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	56.6kDa
Protein Description	Extracellular Domain
Image	



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



Based on the SEQUEST from database of E.coli host and target protein, the LC-MS/MS Analysis result of CSB-EP027121HU could indicate that this peptide derived from E.coli-expressed Homo sapiens (Human) ZP3.



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Description

The recombinant Human ZP3 was expressed with the amino acid range of 23-387. This ZP3 protein is expected to have a theoretical molecular weight of 56.6 kDa. Expression of this ZP3 protein is conducted in e.coli. The N-terminal 6xHis-SUMO tag was smoothly integrated into the coding gene of ZP3, which enables a simple process of detecting and purifying the ZP3 recombinant protein in the following steps.

The human zona pellucida sperm-binding protein 3 (ZP3) is a glycoprotein that plays a crucial role in the process of fertilization. ZP3 is a component of the zona pellucida, an extracellular matrix surrounding the oocyte. During fertilization, ZP3 serves as a sperm receptor, facilitating the binding and recognition of spermatozoa to the zona pellucida. This interaction triggers the acrosome reaction in sperm, enabling them to penetrate the zona pellucida and reach the oocyte for fertilization. ZP3 is essential for species-specific fertilization, as it ensures that only sperm of the same species can bind to and fertilize the egg. Additionally, ZP3 has been studied for its potential applications in contraceptive vaccine development, as antibodies against ZP3 can block sperm-egg interaction, providing a contraceptive effect.

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.