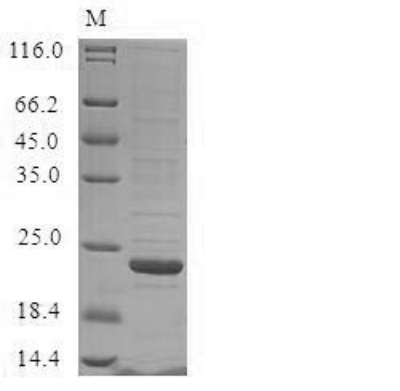
Recombinant Bovine Odorant-binding protein

Product Code	CSB-BP362133BO
Relevance	This protein binds a wide variety of chemical odorants.
Abbreviation	Recombinant Bovine Odorant-binding 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.	P07435
Product Type	Recombinant Protein
Immunogen Species	Bos taurus (Bovine)
Purity	Greater than 85% as determined by SDS-PAGE.
Sequence	AQEEEAEQNLSELSGPWRTVYIGSTNPEKIQENGPFRTYFRELVFDDEKGTVD FYFSVKRDGKWKNVHVKATKQDDGTYVADYEGQNVFKIVSLSRTHLVAHNINV DKHGQTTELTELFVKLNVEDEDLEKFWKLTEDKGIDKKNVVNFLENEDHPHPE
Research Area	Others
Source	Baculovirus
Protein Names	Olfactory mucosa pyrazine-binding protein
Expression Region	1-159aa
Notes	Repeated freezing and thawing is not recommended. Store working aliquots at 4°C for up to one week.
Tag Info	N-terminal 10xHis-tagged
Mol. Weight	21.0 kDa
Protein Length	Full Length

Image



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

Description

Recombinant Bovine Odorant-binding Protein is expressed in a baculovirus system and includes an N-terminal 10xHis-tag for easy purification. The protein

is produced as a full-length sequence from amino acids 1 to 159 and achieves a purity level greater than 85% as determined by SDS-PAGE analysis. This product is designed for research use only and provides reliable performance in various experimental applications.

Odorant-binding proteins from Bos taurus appear to play a critical role in the olfactory system by binding and transporting volatile odor molecules. These proteins seem essential in the initial steps of odor detection and signal transduction. This makes them an intriguing subject of study in olfactory research and the broader field of sensory biology.

Potential Applications

Note: The applications listed below are based on what we know about this protein's biological functions, published research, and experience from experts in the field. However, we haven't fully tested all of these applications ourselves yet. We'd recommend running some preliminary tests first to make sure they work for your specific research goals.

1. Protein-Protein Interaction Studies Using His-Tag Pull-Down Assays

The N-terminal 10xHis-tag allows immobilization of the recombinant bovine odorant-binding protein on nickel-affinity matrices for pull-down experiments. Researchers might use this approach to identify potential binding partners or interacting proteins from bovine tissue lysates or purified protein libraries. The 85% purity level is likely sufficient for these interaction studies, since the His-tag provides specific capture while contaminants can be washed away during the procedure.

2. Antibody Development and Validation

The recombinant protein may serve as an immunogen for generating polyclonal or monoclonal antibodies specific to bovine odorant-binding protein. The baculovirus expression system typically provides proper protein folding and post-translational modifications, which suggests it could be suitable for producing antibodies that recognize the native protein. Scientists can also use the His-tag in ELISA-based screening and validation of antibody specificity during the development process.

3. Biochemical Characterization and Stability Studies

Researchers can subject the purified protein to various biochemical analyses including thermal stability assays, pH tolerance studies, and buffer optimization experiments. Such studies would provide fundamental information about the protein's biophysical properties and optimal storage conditions. The relatively high purity level allows for reliable spectroscopic measurements and other analytical techniques to characterize the protein's behavior under different experimental conditions.

4. Comparative Protein Analysis Across Species

	This bovine odorant-binding protein can be used in comparative studies alongside odorant-binding proteins from other species to investigate evolutionary relationships and structural differences. SDS-PAGE analysis, Western blotting, and cross-reactivity studies with antibodies raised against odorant-binding proteins from different species may provide insights into conserved and divergent features within this protein family.
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.