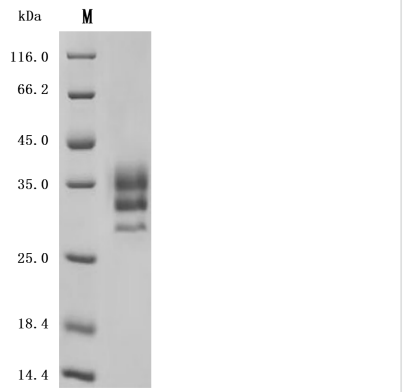
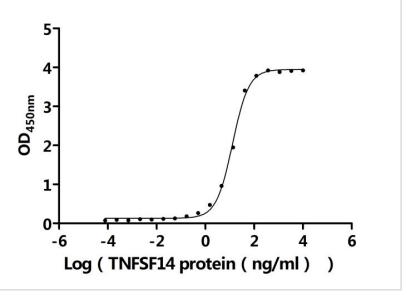
Recombinant Macaca fascicularis Lymphotoxin beta receptor (LTBR), partial (Active)

Product Code	CSB-MP6176MOV
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.	A0A2K5VGQ6
Form	Lyophilized powder
Storage Buffer	Lyophilized from a 0.2 μm filtered PBS, 6% Trehalose, pH 7.4
Product Type	Recombinant Protein
Immunogen Species	Macaca fascicularis (Crab-eating macaque) (Cynomolgus monkey)
Biological Activity	Measured by its binding ability in a functional ELISA. Immobilized Cynomolgus LTBR at 2 μg/ml can bind human TNFSF14 (CSB-MP023991HUj7-B), the EC50 is 11.83-14.23 ng/ml.
Sequence	SQPQVVRKGPVPPYGSENQTCRDQEKEYYEPRHRICCSRCPPGTYVSAKCS RSRDTVCATCAENSYNEHWNYLTICQLCRPCDPVMGLEEIAPCTSKRKTQCR CQPGMFCAAWALECTHCELLSDCPPGTEAELKDEVGKGNNHCVPCKAGHFQ NTSSPSARCQPHTRCEDQGLVEAAPGTAQSDTTCRNPSESLPPEMSGT
Source	Mammalian cell
Target Names	LTBR
Expression Region	28-229aa
Notes	Repeated freezing and thawing is not recommended. Store working aliquots at 4°C for up to one week.
Tag Info	C-terminal 10xHis-tagged
Mol. Weight	23.6kDa
Protein Length	Partial
Image	 (Tris-Glycine gel) Discontinuous SDS-PAGE (reduced) with 5% enrichment gel and 15% separation gel.



Activity
Measured by its binding ability in a functional ELISA. Immobilized Cynomolgus LTBR at 2 μg/ml can bind human TNFSF14 (CSB-MP023991HUj7-B), the EC_{50} is 11.83-14.23 ng/ml.

Description

The recombinant Macaca fascicularis LTBR protein is an active, high-quality product produced in mammalian cells to preserve native folding and functional integrity. It comprises the amino acids 28 to 229 of the LTBR protein and includes a C-terminal 10xHis tag to facilitate purification and assay compatibility. This recombinant LTBR protein has been tested for endotoxin levels, which are maintained below 1.0 EU/μg as determined by the LAL method, ensuring suitability for sensitive biological applications. Functional activity is confirmed through ELISA, where immobilized LTBR at 2 μg/mL effectively binds human TNFSF14 (CSB-MP023991HUj7-B), with an EC_{50} ranging from 11.83 to 14.23 ng/mL. These characteristics support its use in receptor-ligand interaction studies, immune signaling research, and therapeutic target validation involving the LTBR-TNFSF14 axis.

The LTBR is a critical component of immune regulation and lymphoid organ development. In the context of Macaca fascicularis, commonly known as the cynomolgus monkey, understanding the function of LTBR can reveal insights into both primate immunology and potential applications in human health.

LTBR is known for its role in mediating lymphoid organogenesis, particularly during the development of secondary lymphoid tissues such as lymph nodes and spleen. This receptor interacts with lymphotoxin, a cytokine that is crucial for the organization of lymphoid tissues. Research has demonstrated that the signaling pathway activated by LTBR contributes significantly to the maintenance and proliferation of various immune cells, including T and B lymphocytes, which are essential for adaptive immunity [1]. In studies involving non-human primate models, including Macaca fascicularis, LTBR has been recognized for its involvement in regulating immune responses to pathogens, making it a potent candidate for studying immune interventions and therapies against infectious diseases like tuberculosis [2].

Further exploration of LTBR in cynomolgus monkeys has shown its implications in disease modeling. For instance, the dynamics of LTBR signaling can be applied to understanding the progression of infections, such as those caused by Mycobacterium tuberculosis, where the receptor's activity may influence granuloma formation, a hallmark of pulmonary tuberculosis [2]. Additionally, the utilization of cynomolgus monkeys in vaccine research against viruses like SARS-CoV-2 implicates LTBR in understanding immune memory and responsiveness in vaccine contexts [3][4].

The relevance of LTBR is further supported by its similarities across species,

allowing for translational insights into human immune responses. Since cynomolgus monkeys share significant anatomical and immunological parallels with humans, findings regarding LTBR in these monkeys can be valuable benchmarks for developing therapeutic interventions in human health, particularly in immunology and vaccine development [4]. Various studies on LTBR have highlighted its role in disease progression and recovery, further elucidating its potential as a therapeutic target.

References:
[1] J. Flynn, H. Gideon, J. Mattila, & P. Lin. Immunology studies in non?human primate models of tuberculosis. Immunological Reviews, vol. 264, no. 1, p. 60-73, 2015. https://doi.org/10.1111/imr.12258
[2] L. Hunter, S. Hingley?Wilson, G. Stewart, S. Sharpe, & F. Salguero. Dynamics of macrophage, t and b cell infiltration within pulmonary granulomas induced by mycobacterium tuberculosis in two non-human primate models of aerosol infection. Frontiers in Immunology, vol. 12, 2022. https://doi.org/10.3389/fimmu.2021.776913
[3] C. Brady, T. Tipton, S. Longet, & M. Carroll. Pre-clinical models to define correlates of protection for sars-cov-2. Frontiers in Immunology, vol. 14, 2023. https://doi.org/10.3389/fimmu.2023.1166664
[4] J. Estes, S. Wong, & J. Brenchley. Nonhuman primate models of human viral infections. Nature Reviews Immunology, vol. 18, no. 6, p. 390-404, 2018. https://doi.org/10.1038/s41577-018-0005-7

Endotoxin	Less than 1.0 EU/ug as determined by LAL method.
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.