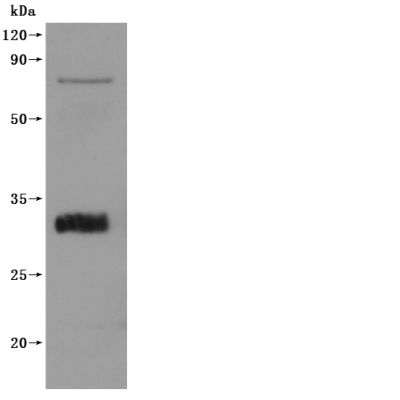
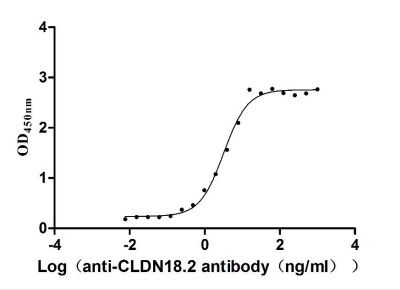
Recombinant Macaca fascicularis Claudin 18.2 (CLDN18.2)-VLPs (Active)

Product Code	CSB-MP4304MOV
Abbreviation	Recombinant Cynomolgus monkey CLDN18.2 protein-VLPs (Active)
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.	A0A2K5VV62
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 Macaca fascicularis CLDN18 at 5 μg/ml can bind Anti-CLDN18.2 recombinant Antibody (CSB-RA005498A1HU), the EC_{50} is 2.806-3.641 ng/ml.
Purity	Greater than 90% as determined by SEC-HPLC.
Sequence	MAVTACQGLGFVVSLIGIAGIIAATCMDQWSTQDLYNNPVTAVFNYQGLWRSC VRESSGFTECRGYFTLLGLPAMLQAVRALMIVGIVLGAIGLLVSIFALKCIRIGSM EDSAKANMTLTSGIMFIVSGLCAIAGVSVFANMLVTNFWMSTANMYTGMGGM VQTVQTRYTFGAALFVGWVAGGLTLIGGVMMCIACRGLAPEETNYKAVSYHA SGHSVAYKPGGFKASTGFGSNTKNKKTYDGGAHTEDELQSYPSKHDYV
Source	Mammalian cell
Target Names	CLDN18.2
Expression Region	1-261aa
Notes	Repeated freezing and thawing is not recommended. Store working aliquots at 4°C for up to one week.
Tag Info	N-terminal 6xHis-tagged (This tag can be tested only under denaturing conditions)
Mol. Weight	28.7 kDa
Protein Length	Full Length
Image	



CSB-MP4304MOV is detected by Mouse anti-6*His monoclonal antibody.



Activity
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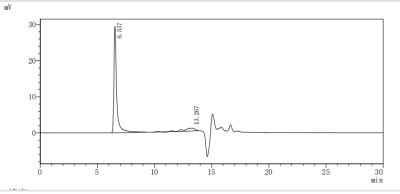

The purity of VLPs was greater than 90% as determined by SEC-HPLC

Description

This recombinant Macaca fascicularis CLDN18.2 protein (amino acids 1-261) is produced as a virus-like particle (VLP) in mammalian cells, featuring an N-terminal 6×His tag. The VLP structure mimics native membrane protein conformation while demonstrating high purity (>90% by SEC-HPLC) and low endotoxin levels (<1.0 EU/μg, LAL method). Functional validation via ELISA confirms specific binding to anti-CLDN18.2 antibody (CSB-RA005498A1HU) (EC_{50}: 2.806–3.641 ng/mL at 5 μg/mL immobilization), validating its structural integrity and antigenic properties.

The mammalian expression system ensures proper post-translational modifications critical for CLDN18.2's role in tight junction formation and cell adhesion. The VLP format preserves multi-epitope presentation, making it particularly valuable for evaluating antibody binding kinetics and developing CLDN18.2-targeted biologics. This recombinant protein serves as a robust tool for advancing precision oncology and epithelial biology research.

The CLDN18.2 protein is a member of the claudin family of proteins, which are essential components of tight junctions that regulate the permeability of epithelial and endothelial barriers in various tissues. In Macaca fascicularis (the cynomolgus macaque), the expression and functional roles of CLDN18.2 can be investigated, especially considering that this species serves as a critical model organism in biomedical research due to its close genetic relationship to humans

and its relevance in various disease studies [1][2].

In the context of gastrointestinal health and pathology, CLDN18.2 has been highlighted for its specific expression in gastric epithelium. This protein has been primarily studied for its role as a potential biomarker for gastric cancers, which are notably common in humans, and potentially transferable insights could be drawn from the study of this protein in cynomolgus macaques [3][2]. Moreover, the significant similarity in gastrointestinal systems between Macaca fascicularis and humans makes this protein a suitable target for understanding human gastric diseases and the development of therapeutic strategies [3][1].

Additionally, CLDN18.2 has gained attention as a target for antibody-drug conjugates in cancer therapy, particularly in gastric and gastroesophageal junction cancers. Investigating the expression levels and functional implications of CLDN18.2 in Macaca fascicularis can offer insights into tumor biology and the efficacy of novel therapeutics [3][1][2].

The ongoing research on CLDN18.2 in cynomolgus macaques highlights the potential for using this species not only to uncover the basic biological functions of tight junction proteins but also to advance our understanding of their contributions to disease mechanisms and treatment modalities in human medicine.

References:
[1] S. Mariya, F. Dewi, et al. Isolation and characterization of c-c chemokine ligand 7 (ccl7) in cynomolgus macaques. Hayati Journal of Biosciences, vol. 26, no. 3, p. 129, 2019. https://doi.org/10.4308/hjb.26.3.129
[2] S. Laila, D. Astuti, I. Suparto, E. Handharyani, T. Register, & D. Sajuthi. Atherosclerotic lesion of the carotid artery in indonesian cynomolgus monkeys receiving a locally sourced atherogenic diet. Veterinary Sciences, vol. 9, no. 3, p. 105, 2022. https://doi.org/10.3390/vetsci9030105
[3] M. Abdul?Latiff, F. Ruslin, et al. Continental monophyly and molecular divergence of peninsular malaysia'smacaca fascicularis fascicularis. Biomed Research International, vol. 2014, p. 1-18, 2014. https://doi.org/10.1155/2014/897682

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?/-80?. 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.