

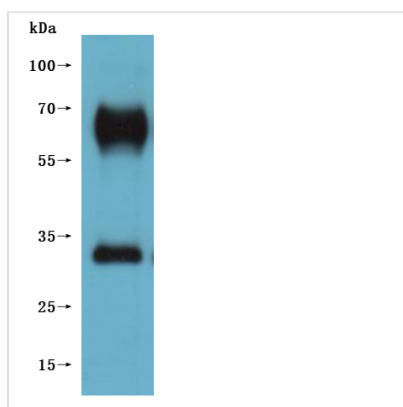


Recombinant Macaca fascicularis G protein-coupled receptor 20 (GPR20)-VLPs (Active)

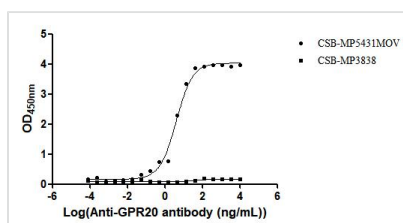
Product Code	CSB-MP5431MOV
Abbreviation	Recombinant Cynomolgus monkey GPR20 protein-VLPs (Active)
Storage	The shelf life is related to many factors, storage state, buffer ingredients, storage temperature and the stability of the protein itself. Generally, the shelf life of liquid form is 6 months at -20°C/-80°C. The shelf life of lyophilized form is 12 months at -20°C/-80°C.
Uniprot No.	XP_015310747.1
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 GPR20 at 10 µg/mL can bind Anti-GPR20 recombinant antibody(CSB-RA860774MA1HU). The EC50 is 3.549 - 6.542 ng/mL.The VLPs (CSB-MP3838) is negative control.
Purity	Greater than 95% as determined by SEC-HPLC.
Sequence	MPSVSPVGPSAGAVPNATAVTTVWTNASGLEVPLFHLFARLDEELHGTFFGL WLALMAVHGAIFLVGLVLNGLALYVFCRTQAKTPSVIYTINLVVTDLLVGLSLP TRFAVYYGARGCLHCAFPVHVLGYFLNMHCSILFTICVDRYLAIVRPEGSRRRC RQPACARAVCAFWLAAGAVTSLVGMTGGRPCCRVFALTVLEFLLPLLVISV FTGRIMCALSRLPGLLRQGRQRRVRAMQLLLTVLIIFLVCFTPFHARQVAVALWP DMPHHASLVVYHVAVTLSLNSCMDPIVYCFVTSGFQATVRGLFGQHRGERE PSSGDVSMHRSSKSGSRHHLSAGPHALTQALANGPEA
Source	Mammalian cell
Target Names	GPR20
Expression Region	1-359aa
Notes	The VLPs are expressed from human 293 cells (HEK293).Mix the sample gently by repeatedly pipetting it up and down. Do not vortex.Repeated freezing and thawing is not recommended.Store the protein at -20°C/-80°C upon receiving it, and ensure to avoid repeated freezing and thawing, otherwise, it will affect the protein activity. The immunization strategy should be optimized (antigen dose, regimen and adjuvant).
Tag Info	C-terminal 10xHis-tagged(This tag can be tested only under denaturing conditions)
Mol. Weight	40.2 kDa
Protein Length	Full Length



Image

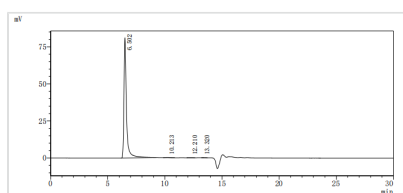


CSB-MP5431MOV is detected by Mouse anti-6*His monoclonal antibody. (This tag can be tested only under denaturing conditions.)



Activity

Measured by its binding ability in a functional ELISA. Immobilized *Macaca fascicularis* GPR20 at 10 µg/ml can bind Anti-GPR20 recombinant antibody (CSB-RA860774MA1HU). The EC₅₀ is 3.549 - 6.542 ng/mL. The VLPs (CSB-MP3838) is negative control.



The purity of VLPs was greater than 95% as determined by SEC-HPLC

Description

The recombinant *Macaca fascicularis* GPR20 protein is produced as a virus-like particle (VLP), enabling it to maintain a membrane-associated conformation that closely mimics its native state. Expressed in mammalian cells, this construct includes the full-length GPR20 sequence (amino acids 1–359) and features a C-terminal 10xHis tag for purification and analytical use. The recombinant GPR20 protein is supplied in lyophilized form and demonstrates high purity, exceeding 95% as determined by SEC-HPLC. Functional validation in an ELISA assay confirms its ability to bind the anti-GPR20 recombinant antibody (CSB-RA860774MA1HU) when immobilized at 10 µg/mL, with an EC₅₀ ranging from 3.549 to 6.542 ng/mL. The specificity of the assay is supported by a negative VLP control (CSB-MP3838). With its preserved structural integrity and confirmed activity, this GPR20 VLP is a reliable reagent for studies involving G protein-coupled receptor function, antibody screening, or therapeutic development.

The GPR20 protein in *Macaca fascicularis*, commonly known as the cynomolgus macaque, is part of a broader category of GPCRs. These receptors play essential roles in various physiological processes by mediating signal transduction, particularly in response to extracellular stimuli. While specific studies directly focusing on GPR20 in *Macaca fascicularis* are limited, we can draw from the general characteristics of GPCRs and their relevance in the context of primate biology and health, particularly concerning metabolic processes and disease models.



GPCRs typically operate through G proteins to facilitate intracellular signaling pathways pivotal for regulating multiple physiological functions such as hormone responses, sensory perception, and immune responses. In primates, including *Macaca fascicularis*, the variety of GPCRs, including orphan receptors such as GPR20, raises significant interest in their potential roles in disease mechanisms and drug responses, especially as cynomolgus macaques serve as vital models for biomedical research [1][2].

Recent research indicates that GPCRs, and potentially GPR20, are associated with metabolic alterations as observed in studies involving macaque models for diabetes and metabolic syndrome. These conditions are critical areas of study given their parallels to human physiology and disease [3]. Moreover, the variations in GPCR signaling pathways among different primate species can provide insights into evolutionary adaptations and functional discrepancies that influence drug metabolism and therapeutic responses in humans [4].

Alongside these metabolic implications, various studies emphasize the importance of the cynomolgus macaque as a representative model for assessing neurological disorders. Research surrounding GPCR interactions—including that possibly involving GPR20—may elucidate new pathways for understanding complex interactions in neurodegenerative diseases, which affect both human and primate health. For instance, the involvement of GPCRs in dopamine signaling pathways has been studied extensively within MPTP-induced parkinsonian macaque models, demonstrating the intricate relationships between receptor signaling, brain function, and behavioral outcomes [5].

References:

- [1] 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>
- [2] S. Kanthaswamy, J. Ng, et al. The genetic composition of populations of cynomolgus macaques (*Macaca fascicularis*) used in biomedical research. *Journal of Medical Primatology*, vol. 42, no. 3, p. 120-131, 2013.
<https://doi.org/10.1111/jmp.12043>
- [3] 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>
- [4] S. Pérez, M. Vernica, & O. Rascol. Ayurveda medicine for the treatment of parkinson's disease. *International Journal of Integrative Medicine*, p. 1, 2013.
<https://doi.org/10.5772/56251>
- [5] L. Tian, Y. Xia, H. Flores, M. Campbell, S. Moerlein, & J. Perlmutter. Neuroimaging analysis of the dopamine basis for apathetic behaviors in an mptp-lesioned primate model. *Plos One*, vol. 10, no. 7, p. e0132064, 2015.
<https://doi.org/10.1371/journal.pone.0132064>

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.