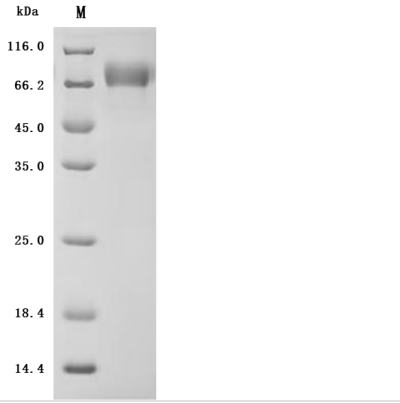
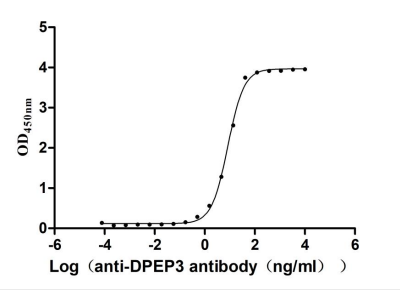
Recombinant Macaca fascicularis Dipeptidase 3(DPEP3) (Active)

Product Code	CSB-MP007125MOV
Abbreviation	Recombinant Cynomolgus monkey DPEP3 protein (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.	Q4R7M2
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 DPEP3 at 2 μg/mL can bind Anti-DPEP3 recombinant antibody (CSB-RA007125MA1HU). The EC50 is 7.817-8.936 ng/mL.
Purity	Greater than 95% as determined by SDS-PAGE.
Sequence	GETTTGAPRALSTLGFPSPFTTPGVPSTLTTPGLTTPGTTKTLDLRSRAQALMR DFPLVDGHNDLPQVLRQRYKNVLQDVNLRNFSHSQTSLDRLRDGLVGAQFW SASVSCQTQDQTAVRLALEQIDLIRRMCASYSELELVTSAEGLNSSQKLACLIG VEGGHSLDSSLSVLRSFYVLGVRYLTLTFTCNTPWAESSTKFTHHMYTNVSGL TSFGEKVVEELNRLGMMIDLSYASDTLMRRVLEVSRAPVIFSHSAARAVCDNS LNVPDDILQLLKKNGGIVMVTLSMGVLQCNLLANVSTVADHFDHIRAVIGSEFIG IGGNYDGAGRFPQGLEDVSTYPVLIEELLSRSWSEKELQGVLRGNLLRVFRQA EKVREESRAQSPMEAEFPYGQLSTSCHSHLVPQNGHQATHLEVTKWPTNRV PWRS
Source	Mammalian cell
Target Names	DPEP3
Expression Region	36-463aa
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	48.5 kDa
Protein Length	Full Length of Mature Protein
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 Macaca fascicularis DPEP3 at 2 μg/ml can bind Anti-DPEP3 recombinant antibody (CSB-RA007125MA1HU). The EC_{50} is 7.817-8.936 ng/mL.

Description

The recombinant Macaca fascicularis DPEP3 protein is an active form expressed in mammalian cells, covering amino acids 36 to 463 of the native DPEP3 sequence. It includes a C-terminal 10xHis tag to support purification and downstream applications. This recombinant DPEP3 protein is provided as a lyophilized powder and exhibits high purity—greater than 95%, as confirmed by SDS-PAGE. Endotoxin levels are kept below 1.0 EU/μg, verified by the LAL method, making it suitable for use in sensitive assays. Its functional activity is demonstrated through ELISA, where the immobilized protein at 2 μg/mL effectively binds the anti-DPEP3 recombinant antibody (CSB-RA007125MA1HU), with an EC_{50} ranging from 7.817 to 8.936 ng/mL. These characteristics make it a reliable tool for studying DPEP3-related interactions.

The DPEP3 protein in Macaca fascicularis, commonly known as the cynomolgus or long-tailed macaque, serves critical functions in cellular and physiological processes. However, specific research on DPEP3 is limited. The general context of proteins involved in cellular metabolism and immune responses can provide a framework for understanding the potential roles of DPEP3 in this primate species.

DPEP3 is part of a family of dipeptidases involved in the hydrolysis of dipeptides, which contributes to protein metabolism and peptide processing within cells. The functional importance of these dipeptidases in immune responses suggests that DPEP3 may play a role in the immune system of M. fascicularis, especially considering its genetic proximity and shared evolutionary history with humans. Non-human primate models, particularly M. fascicularis, offer insights into human diseases due to their genetic similarities—approximately 92% shared genome identity with humans [1].

Furthermore, transcriptomic analyses have highlighted unique gene expression profiles in M. fascicularis, providing valuable insights into the potential roles of various proteins, including DPEP3. For instance, research into transcriptomic biomarkers related to ischemic conditions in a related macaque species suggests that there may be divergent roles of proteins in stress responses and metabolism [2]. Although direct studies specifically isolating DPEP3 in M. fascicularis have not yet been conducted, these findings underscore the potential significance of exploring its functional dynamics in metabolic and immune responses.

Additionally, M. fascicularis serves as a model organism in biomedical research, emphasizing the relevance of proteins like DPEP3 in translational medicine. This species is often used to study human diseases due to its physiological and genetic similarities to humans [3]. Understanding the function of DPEP3, which may be involved in metabolizing immune-related peptides, could contribute to elucidating disease mechanisms relevant to human health, including autoimmune diseases or metabolic syndromes.

References:
[1] B. Koo, D. Lee, et al. Reference values of hematological and biochemical parameters in young-adult cynomolgus monkey (macaca fascicularis) and rhesus monkey (macaca mulatta) anesthetized with ketamine hydrochloride. Laboratory Animal Research, vol. 35, no. 1, 2019. https://doi.org/10.1186/s42826-019-0006-0
[2] L. Ramsay, M. Quillé, et al. Blood transcriptomic biomarker as a surrogate of ischemic brain gene expression. Annals of Clinical and Translational Neurology, vol. 6, no. 9, p. 1681-1695, 2019. https://doi.org/10.1002/acn3.50861
[3] D. Hirahara, I. Kaneko, J. Nishino, J. Hayano, Ó. Mozos, & E. Yuda. Investigating heart rate variability index classification in macaca fascicularis and humans: exploring applications for personal identification and anonymization studies. Advances in Science Technology and Engineering Systems Journal, vol. 9, p. 143-148, 2024. https://doi.org/10.25046/aj090114

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.