



Recombinant Mouse Prolyl endopeptidase FAP (Fap), partial

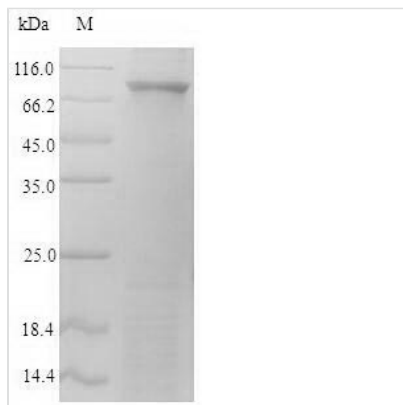
Product Code	CSB-CF008424MO
Relevance	Cell surface glycoprotein serine protease that participates in extracellular matrix degradation and involved in many cellular processes including tissue remodeling, fibrosis, wound healing, inflammation and tumor growth. Both plasma membrane and soluble forms exhibit post-proline cleaving endopeptidase activity, with a marked preference for Ala/Ser-Gly-Pro-Ser/Asn/Ala consensus sequences, on substrate such as alpha-2-antiplasmin SERPINF2 and SPRY2. Degrade also gelatin, heat-denatured type I collagen, but not native collagen type I and IV, vitronectin, tenascin, laminin, fibronectin, fibrin or casein. Have also dipeptidyl peptidase activity, exhibiting the ability to hydrolyze the prolyl bond two residues from the N-terminus of synthetic dipeptide substrates provided that the penultimate residue is proline, with a preference for Ala-Pro, Ile-Pro, Gly-Pro, Arg-Pro and Pro-Pro. Natural neuropeptide hormones for dipeptidyl peptidase are the neuropeptide Y (NPY), peptide YY (PYY), substance P (TAC1) and brain natriuretic peptide 32 (NPPB). The plasma membrane form, in association with either DPP4, PLAUR or integrins, is involved in the pericellular proteolysis of the extracellular matrix (ECM), and hence promotes cell adhesion, migration and invasion through the ECM. Plays a role in tissue remodeling during development and wound healing. Participates in the cell invasiveness towards the ECM in malignant melanoma cancers. Enhances tumor growth progression by increasing angiogenesis, collagen fiber degradation and apoptosis and by reducing antitumor response of the immune system. Promotes glioma cell invasion through the brain parenchyma by degrading the proteoglycan brevican. Acts as a tumor suppressor in melanocytic cells through regulation of cell proliferation and survival in a serine protease activity-independent manner
Abbreviation	Recombinant Mouse Fap protein, partial
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.	P97321
Product Type	Transmembrane Protein
Immunogen Species	Mus musculus (Mouse)
Purity	Greater than 90% as determined by SDS-PAGE.
Sequence	LRPSRVYKPEGNTKRALTLDKILNGTFSYKTYFPNWISEQEYLHQSEDDNIVFY NIETRESYIILSNSTMKSVNATDYGSLPDRQFVYLESYSLWRYSTATYYIYD LQNGEFVRGYELPRPIQYLCWSPVGSKLAYVYQNNIYLKQRPDPPFQITYTG RENRIENGIPDWVYEEEMLATKYALWVSPDGKFLAYVEFNDSDIPIIAYSYYGD GQYPRITINIPYPKAGAKNPVVRVFIVDTTYPHHVGPMEVPVPEMIASSDYYS WLTWSSSERVCLQWLKRVQNVSVLSICDFREDWHAWECPNQEHVEESRTG



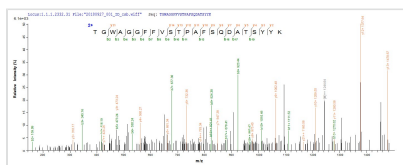
WAGGFFVSTPAFSQDATSYKIFSDKDGYKHIHYIKDTVENAIQITSGKWEAIYI
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SFSYKAKYYALVCYGPGLPISTLHDGRTDQEIQVLEENKELENSLRNIQLPKVEI
KKLKDGGTLTFWYKMILPPQFDRSKKYPLLIQVYGGPCSQSVKSVFAVNWITYL
ASKEGIVIALVDGRGTAFQGDKFLHAVYRKLGVYEVEDQLTAVRKFIEMGFIDE
ERIAIWGWSYGGYVSSLALASGTGLFKCGIAVAPVSSWEYYASIYSERFMGLP
TKDDNLEHYKNSTVMARAEYFRNVDYLLIHGTADDNVHFQNSAQIAKALVNAQ
VDFQAMWYSQNHGISSGRSQNHLYTHMTHFLKQCFSLSD

Research Area	others
Source	in vitro E.coli expression system
Target Names	Fap
Protein Names	Dipeptidyl peptidase FAP
Expression Region	26-761aa
Notes	Repeated freezing and thawing is not recommended. Store working aliquots at 4°C for up to one week.
Tag Info	N-terminal 6xHis-SUMO-tagged
Mol. Weight	101.3kDa
Protein Length	Extracellular Domain

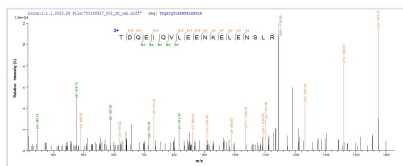
Image



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



Based on the SEQUEST from database of E.coli host and target protein, the LC-MS/MS Analysis result of CSB-CF008424MO could indicate that this peptide derived from E.coli-expressed Mus musculus (Mouse) Fap.



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Description

The recombinant mouse Prolyl endopeptidase FAP is a highly pure protein, with more than 90% purity as determined by SDS-PAGE. Expressed from in vitro E.



coli expression system, it covers the extracellular domain of mouse FAP (26-761aa) and includes an N-terminal 6xHis-SUMO-tag for efficient purification and detection. Available in liquid or lyophilized powder form, this recombinant protein is suitable for FAP-related research applications.

Mouse FAP is a type II transmembrane glycoprotein primarily expressed in fibroblasts during wound healing and in various fibrotic diseases, including pulmonary fibrosis and liver cirrhosis [1]. Its expression is also observed in cancer-associated fibroblasts (CAFs), where it contributes to the remodeling of the tumor stroma, facilitating tumor growth and metastasis [2]. FAP not only promotes ECM turnover but also influences the immune landscape within tumors, often leading to immunosuppression and resistance to therapies [3][4].

In addition to its role in cancer, FAP is implicated in various inflammatory conditions. Studies have demonstrated that FAP expression is associated with chronic inflammation and tissue remodeling [5][6].

References:

- [1] L. Wang, A. Lo, J. Scholler, J. Sun, R. Majumdar, V. Kapooret al., Targeting fibroblast activation protein in tumor stroma with chimeric antigen receptor t cells can inhibit tumor growth and augment host immunity without severe toxicity, *Cancer Immunology Research*, vol. 2, no. 2, p. 154-166, 2014. <https://doi.org/10.1158/2326-6066.cir-13-0027>
- [2] Y. Huang, A. Simms, A. Mazur, X. Wang, N. León, B. Joneset al., Fibroblast activation protein- α promotes tumor growth and invasion of breast cancer cells through non-enzymatic functions, *Clinical & Experimental Metastasis*, vol. 28, no. 6, p. 567-579, 2011. <https://doi.org/10.1007/s10585-011-9392-x>
- [3] Z. Ye, Dendritic cells infected with recombinant adenoviral vector encoding mouse fibroblast activation protein α and human livin α exert an antitumor effect against lewis lung carcinoma in mice, *Immunity Inflammation and Disease*, vol. 11, no. 9, 2023. <https://doi.org/10.1002/iid3.1011>
- [4] Y. Liu, Y. Sun, P. Wang, S. Li, Y. Dong, M. Zhouet al., Fap-targeted car-t suppresses mdscs recruitment to improve the antitumor efficacy of claudin18.2-targeted car-t against pancreatic cancer, *Journal of Translational Medicine*, vol. 21, no. 1, 2023. <https://doi.org/10.1186/s12967-023-04080-z>
- [5] S. Wäldele, C. Koers-Wunrau, D. Beckmann, A. Korb-Pap, C. Wehmeyer, T. Papet al., Deficiency of fibroblast activation protein alpha ameliorates cartilage destruction in inflammatory destructive arthritis, *Arthritis Research & Therapy*, vol. 17, no. 1, p. 12, 2015. <https://doi.org/10.1186/s13075-015-0524-6>
- [6] S. Stein, J. Weber, S. Nusser-Stein, J. Pahla, H. Zhang, S. Mohammedet al., Deletion of fibroblast activation protein provides atheroprotection, *Cardiovascular Research*, vol. 117, no. 4, p. 1060-1069, 2020. <https://doi.org/10.1093/cvr/cvaa142>

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.