PRODUCT INFORMATION

DPP-4/CD26 Extracellular Domain (human, recombinant)

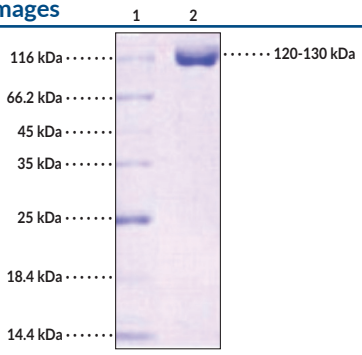
Item No. 31848

Overview and Properties

Synonyms:	ADABP, ADCP2, Adenosine Deaminase Complexing Protein 2, Dipeptidyl Peptidase 4, DPP-IV, T-cell Activation Antigen CD26, TP103
Source:	Active recombinant N-terminal human IgG1 Fc His-tagged DPP-4 expressed in HEK293 cells
Amino Acids:	29-766
Uniprot No.:	P27487
Molecular Weight:	112 kDa
Storage:	-80°C (as supplied)
Stability:	≥1 year
Purity:	≥95% estimated by SDS-PAGE
Supplied in:	Lyophilized from sterile 25 mM MES, with 150 mM sodium chloride, pH 6.5, 5% trehalose, 5% mannitol, and 0.01% tween 80
Endotoxin Testing:	<1.0 EU/µg, determined by the LAL endotoxin assay
Protein Concentration:	***batch specific*** mg/ml
Bioactivity:	See figures for details

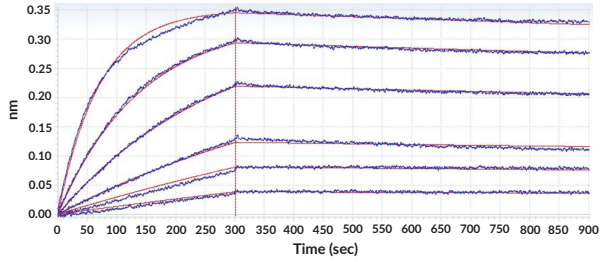
Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Images

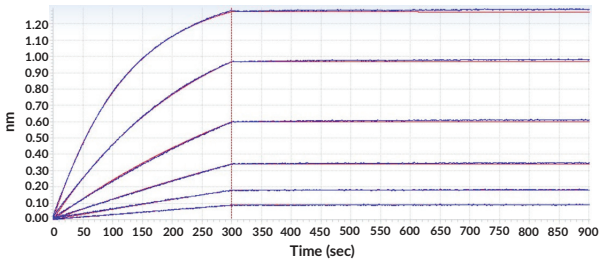


Lane 1: MW Markers
Lane 2: DPP-4/CD26 Extracellular Domain

SDS-PAGE Analysis of DPP-4/CD26 Extracellular Domain. This protein has a calculated molecular weight of 112 kDa. It has an apparent molecular weight of approximately 120-130 kDa by SDS-PAGE under reducing conditions due to glycosylation.



Octet RED System on DPP-4/CD26 Extracellular Domain. Using the Octet RED System, the affinity constant (K_d) of DPP-4/CD26 Extracellular Domain, bound to MERS-CoV Spike/RBD Protein fragment was 1.04 nM.



Octet RED System on DPP-4/CD26 Extracellular Domain. Using the Octet RED System, the affinity constant (K_d) of DPP-4/CD26 Extracellular Domain, bound to MERS-CoV Spike/S1 Protein was 0.02 nM.

WARNING
THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA
This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent *via* email to your institution.

WARRANTY AND LIMITATION OF REMEDY
Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

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Description

Dipeptidyl peptidase 4 (DPP-4), also known as CD26, is a type II transmembrane glycoprotein with a major role in glucose metabolism.[1] It is composed of a short cytoplasmic tail, a transmembrane domain, and a large extracellular domain, which contains a flexible stalk, glycosylation- and cysteine-rich regions, and a catalytic region. DPP-4 is expressed in endothelial and epithelial tissues, as well as T cells, activated B cells, activated natural killer (NK) cells, and myeloid cells. It functions as a homodimer that cleaves X-proline dipeptides from the N-terminus of various polypeptide substrates, such as GLP-1, to regulate glucose metabolism, immune responses, nociception, and blood pressure.[1-3] Additionally, DPP-4 acts as a co-stimulator of T cell receptor-mediated T cell activation and functional receptor for Middle East respiratory syndrome coronavirus (MERS-CoV).[1,4] Small molecule-induced inhibition of DPP-4 improves glucose tolerance in animal models of insulin resistance and has antihypertensive effects in various rodent models of hypertension.[2,3] Cayman's DPP-4/CD26 Extracellular Domain (human, recombinant) protein can be used for binding assays. This protein is a disulfide-linked homodimer. The reduced monomer, composed of DPP-4 (amino acids 29-766) fused to His-tagged human IgG1 Fc at its N-terminus, consists of 975 amino acids and has a calculated molecular weight of 112 kDa. As a result of glycosylation, the monomer migrates at approximately 120-130 kDa by SDS-PAGE under reducing conditions.

References

1. Klemann, C., Wagner, L., Stephan, M., *et al.* Cut to the chase: A review of CD26/dipeptidyl peptidase-4's (DPP4) entanglement in the immune system. *Clin. Exp. Immunol.* **185(1)**, 1-21 (2016).
2. Zhang, J., Chen, Q., Zhong, J., *et al.* DPP-4 inhibitors as potential candidates for antihypertensive therapy: Improving vascular inflammation and assisting the action of traditional antihypertensive drugs. *Front. Immunol.* **10**, 1050 (2019).
3. Barnett, A. DPP-4 inhibitors and their potential role in the management of type 2 diabetes. *Int. J. Clin. Pract.* **60(11)**, 1454-1470 (2006).
4. Du, H., Wang, D.W., and Chen, C. The potential effects of DPP-4 inhibitors on cardiovascular system in COVID-19 patients. *J. Cell. Mol. Med.* **24(18)**, 10274-10278 (2020).

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