PRODUCT INFORMATION

JAML Extracellular Domain (human, recombinant)

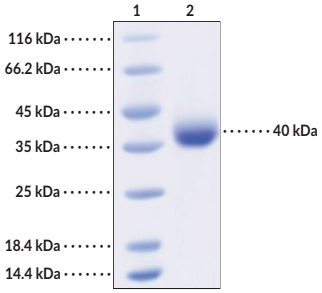
Item No. 44179

Overview and Properties

Synonyms:	Adhesion Molecule Interacting with CXADR Antigen 1, AMICA, CREA7-1, CREA7-4, Dendritic Cell-specific Protein, Junctional Adhesion Molecule-like
Source:	Recombinant human C-terminal His-tagged JAML extracellular domain expressed in HEK293 cells
Amino Acids:	1-275
Uniprot No.:	Q86YT9
Molecular Weight:	30.5 kDa
Storage:	-80°C (as supplied)
Stability:	≥1 year
Purity:	≥90% estimated by SDS-PAGE
Supplied in:	Lyophilized from sterile PBS, pH 7.4
Endotoxin Testing:	<1.0 EU/µg, determined by the LAL endotoxin assay
Bioactivity:	See figures for details

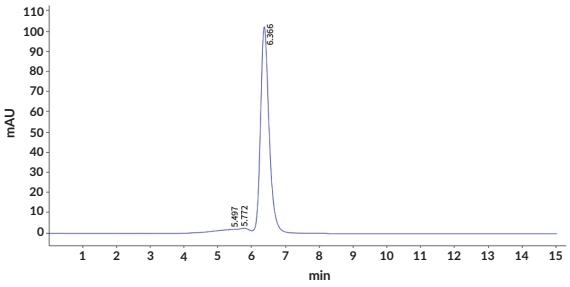
Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Images



Lane 1: MW Markers
Lane 2: JAML Extracellular Domain

SDS-PAGE Analysis of JAML Extracellular Domain. This protein has a calculated molecular weight of 30.5 kDa. It has an apparent molecular weight of approximately 40 kDa by SDS-PAGE under reducing conditions due to glycosylation.



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Description

Junctional adhesion molecule-like (JAML) is a junctional adhesion molecule and member of the immunoglobulin superfamily with roles in maintenance of tight junctions and immune regulation.[1,2] It is composed of an N-terminal extracellular domain, which contains two immunoglobulin-like domains, a transmembrane domain, and a C-terminal cytoplasmic tail.[1] JAML is expressed by neutrophils, monocytes, activated $CD8^+$ T cells, αβ T cells, tissue-resident γδ T cells, and renal podocytes and localizes to the plasma membrane at cell-cell contact regions but is absent at free cell boundaries.[1,2] It regulates leukocyte adhesion and transendothelial migration, functions as a co-regulatory receptor for T cell activation, and regulates lipid metabolism in podocytes.[3,4] Podocyte-specific *Jaml* knockout reduces podocyte injury and proteinuria in *db/db* diabetic mice and in a mouse model of doxorubicin-induced nephropathy.[4] Increased *JAML* expression is associated with improved median and overall survival in patients with subcutaneous melanoma.[2] Cayman's JAML Extracellular Domain (human, recombinant) protein consists of 267 amino acids, has a calculated molecular weight of 30.5 kDa and a predicted N-terminus of Leu20 after signal peptide cleavage. By SDS-PAGE, under reducing conditions, the apparent molecular mass of the protein is 40 kDa due to glycosylation.

References

1. Dong, Z., Liu, N., and Sun, M. The distinct biological role of JAML positions it as a promising target for treating human cancers and a range of other diseases. *Front. Immunol.* **16**, 1558488 (2025).
2. McGraw, J.M., Thelen, F., Hampton, E.N., *et al.* JAML promotes CD8 and γδ T cell antitumor immunity and is a novel target for cancer immunotherapy. *J. Exp. Med.* **218(10)**, e20202644 (2021).
3. Huang, W., Wang, B.-O., Hou, Y.-F., *et al.* JAML promotes acute kidney injury mainly through a macrophage-dependent mechanism. *JCI Insight* **7(14)**, e158571 (2022).
4. Fu, Y., Sun, Y., Wang, M., *et al.* Elevation of JAML promotes diabetic kidney disease by modulating podocyte lipid metabolism. *Cell Metab.* **32(6)**, 1052-1062 (2020).

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