

KLK4 active protein

KLK4 Protein, Human, Recombinant (His Tag)

CATALOG #
AAA27762

HOST
HEK293 Cells

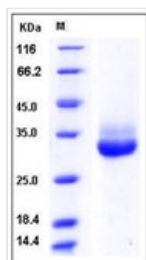
PRODUCT SYNONYMS

KLK4; KLK4 Protein; Human; Recombinant (His Tag); Human KLK-4/Kallikrein-4 Protein (His Tag); AI2A1 Protein; ARM1 Protein; EMSP Protein; EMSP1 Protein; kallikrein Protein; KLK-L1 Protein; PRSS17 Protein; PSTS Protein; kallikrein-related peptidase 4; KLK4 active protein

PRODUCT SPECIFICATIONS

Host	HEK293 Cells
Purity/Purification	>94% as determined by SDS-PAGE
Form/Format	Lyophilized from sterile PBS, pH7.4. Normally 5%trehalose, 5% mannitol, 0.01% Tween80.
Sequence	Met1-Ser25 4
Source	Human
Endotoxin	<1.0EU per ug of the protein as determined by the LAL method
Predicted N Terminal	Ser 27
Tag	His
Protein Construction	A DNA sequence encoding the human KLK4 (NP_004908.3)(Met 1-Ser 254) was expressed, with a polyhistidine tag at the C-terminus.
Reconstitution	It is recommended that sterile water (200ul) be added to the vial to prepare a stock solution of 0.25mg/mL. Concentration is measured by UV.
Activity	Measured by its ability to cleave the fluorogenic peptide substrate Boc-VPR-AMC.. The specific activity is >250pmoles/min/ug. (Activation description: The proenzyme needs to be activated by Thermolysin for an activated form)
Preparation and Storage	Store it under sterile conditions at -20? to -80? upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage. Avoid repeated freeze-thaw cycles.

IMAGES



SDS-PAGE

ADDITIONAL INFORMATION

Related Product Information for KLK4 active protein	Description: Kallikrein-4, also known as Enamel matrix serine proteinase 1, Kallikrein-like protein 1, KLK-L1, Serine protease 17, KLK4, PRSS17 and EMSP1, is a secreted protein which belongs to thepeptidase S1 family and Kallikrein subfamily. Kallikrein-4 / KLK4 is a serine protease expressed during enamel maturation, and proteolytic processing of the enamel matrix by KLK4 is critical for proper enamel formation. Kallikrein-4 / KLK4 contains onepeptidase S1 domain. Kallikrein-4 / KLK4 is secreted by transition- and maturation-stage ameloblasts. KLK4 aggressively degrades the retained organic matrix following the termination of enamel protein secretion. Two proteases are secreted into the enamel matrix of developing teeth. The early protease is enamelysin (MMP-20). The late protease is kallikrein 4 (KLK4). The principle functions of MMP-20 and KLK4 in dental enamel formation are to facilitate the orderly replacement of organic matrix with mineral, generating an enamel layer that is harder, less porous, and unstained by retained enamel proteins. Defects in Kallikrein-4 / KLK4 are the cause of amelogenesis imperfecta hypomaturational type 2A1 (AI2A1) which is an autosomal recessive defect of enamel formation. The disorder involves both primary and secondary dentitions.
Product Categories/Family for KLK4 active protein	Serine Proteases and Regulators
References	Nelson P.S., et al.,(1999), Molecular cloning and characterization of prostase, an androgen-regulated serine protease with prostate-restricted expression. Proc. Natl. Acad. Sci. U.S.A. 96:3114-3119.Yousef G.M., et al., (1999), Prostase/KLK-L1 is a new member of the human kallikrein gene family, is expressed in prostate and breast tissues, and is hormonally regulated.Cancer Res. 59:4252-4256.Stephenson S.A., et al.,(1999), Localization of a new prostate-specific antigen-related serine protease gene, KLK4, is evidence for an expanded human kallikrein gene family cluster on chromosome 19q13.3-13.4.J. Biol. Chem. 274:23210-23214.

NCBI AND UNIPROT INFORMATION

NCBI GI #	89142741
NCBI GeneID	9622
NCBI Accession #	NP_004908.3
NCBI GenBank Nucleotide #	NM_004917.3
UniProt Accession #	Q4VB17 ; Q4VB18 ; Q5BQA0 ; Q96JD7 ; Q96JD8 ; Q96JD9 ; Q96JE0 ; Q96JE1 ; Q96JE2 ; Q96PT0
Molecular Weight	The secreted recombinant human KLK4 consists of 239 amino acids and predicts a molecular mass of 25.8 kDa. In SDS-PAGE under reducing conditions, the apparent molecular mass of rhKLK4 is approximately 30-35 kDa due to glycosylation
NCBI Official Full Name	kallikrein-4 preproprotein
NCBI Official Synonym Full Names	kallikrein-related peptidase 4
NCBI Official Symbol	KLK4
NCBI Official Synonym Symbols	ARM1; EMSP; PSTS; AI2A1; EMSP1; KLK-L1; PRSS17; MGC116827; MGC116828
NCBI Protein Information	kallikrein-4; prostase; serine protease 17; kallikrein-like protein 1; androgen-regulated message 1; enamel matrix serine protease 1; enamel matrix serine proteinase 1
UniProt Protein Name	Kallikrein-related peptidase 4
UniProt Gene Name	KLK4
UniProt Entry Name	Q4VB17_HUMAN

For Research Use Only. Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.