

## KLK1 Human, His

**Description:** Kallikrein-1 Human Recombinant produced in E.coli is a single, non-glycosylated polypeptide chain containing 259 amino acids (25-262) and having a molecular mass of 28.7kDa. KLK1 is fused to a 23 amino acid His-tag at N-terminus & purified by proprietary chromatographic techniques.

**Synonyms:** KLK1, KLK-1, HK1, HK-1, KLKR, KLK6, Tissue Kallikrein, hKLK1, EC 3.4.21.35, Kidney/pancreas/salivary gland kallikrein, Kallikrein-1.

**Source:** Escherichia Coli.

**Physical Appearance:** Sterile Filtered clear solution.

**Amino Acid Sequence:** MGSSHHHHHH SSGLVPRGSH MIVGGWECEQ HSQPWQAALY  
HFSTFQCGGI LVHRQWVLTA AHCISDNYQL WLGRHNLFD DNTAQFVHVS ESFPHPGFNM  
SLLENHTRQA DEDYSHDLML LRLTEPADI TDAVKVVELP TQEPEVGSTC LASGWGSIEP  
ENFSFPDDLQ CVDLKILPND ECKKVHVQKV TDFMLCVGHL EGGKDTCVGD SGGPLMCDGV  
LQGVTSWGYV PC

**Purity:** Greater than 90.0% as determined by SDS-PAGE.

### Formulation:

The KLK1 solution (0.25mg/ml) contains 20mM Tris-HCl buffer (pH 8.0), 0.15M NaCl, 10% glycerol and 1mM DTT.

### Stability:

Store at 4°C if entire vial will be used within 2-4 weeks. Store, frozen at -20°C for longer periods of time. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA). Avoid multiple freeze-thaw cycles.

### Usage:

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### Introduction:

Kallikreins are serine protease enzymes having various physiological functions. Kallikreins are implicated in carcinogenesis and have potential as novel cancer disease biomarkers. KLK1 is one of the fifteen kallikrein subfamily members located in a cluster on chromosome 19. KLK1 is functionally conserved in its ability to release the vasoactive peptide, Lys-bradykinin, from low molecular weight kininogen. Human Kallikrein-1, also called as Kallidinogenase, Kininogenase or Kininogenin, is an active protein enzyme present in saliva, pancreatic juices, and urine that catalyzes the proteolysis of bradykininogen to bradykinin. Kallikrein-1, which derived from human or porcine, have been used as drugs for a long time, they are mainly used in the treatment of light to medium hypertension and occlusion of cerebral and surrounding blood vessels. KLK1 demonstrates both trypsin- and chymotrypsin-like selectivities with Tyr/Arg preferred at site P1, Ser/Arg strongly preferred at P1', and Phe/Leu at P2. rs5517 in the KLK1 gene is considerably connected with hypertension in a Chinese Han population. KLK1 is expressed de novo in endothelial cells and mediates relaxation of human umbilical veins. The K allele of KLK1 promoter and TT genotype of TGF-beta1 are a genetic KLK1 -130 G/A and -128 G/C, and the

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defenselessness factor contributing to progressive renal descent in Taiwanese primary

vesicoureteric reflux children. Induction of KLK1 in carotid arteriosclerosis doesnt lead to

kallikrein-kinins pathway activation. Transgenic rats expressing KLK1 have impaired renal

response to acute volume expansion Endothelial cells synthesize and release active form of

KLK1 on the surface which is important function in maintenance of circulation homeostasis. KLK1

participates in epidermal desquamation through cleavage of desmoglein 1 and regulation by

lympho-epithelial Kazal-type-related inhibitor (LEKTI).



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