

## 32-2479: KLK1 Recombinant Protein

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

### Description

Source : Pichia Pastoris. KLK1 Human Recombinant produced in Yeast is a single, glycosylated, polypeptide chain containing 238 amino acids and having a molecular mass of 28-32 kDa. KLK1 Human Recombinant is purified by proprietary chromatographic techniques. 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 defenselessness factor contributing to progressive renal descent in Taiwanese primary vesicoureteric reflux children. Induction of KLK1 in carotid arteriosclerosis doesn't 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).

### Product Info

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|----------------------------|---|
| <b>Amount :</b>            | 10 µg   |
| <b>Purification :</b>      | Greater than 98.0% as determined by both: (a) Analysis by RP-HPLC. (b) Analysis by SDS-PAGE.  |
| <b>Content :</b>           | Lyophilized from a solution containing 1xPBS.   |
| <b>Storage condition :</b> | Lyophilized KLK1 although stable at room temperature for 3 weeks, should be stored desiccated below -18°C. Upon reconstitution KLK1 should be stored at 4°C between 2-7 days and for future use below -18°C. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA). Please prevent freeze-thaw cycles. |
| <b>Amino Acid :</b>        | The sequence of the first five N-terminal amino acids was determined and was found to be Ile-Val-Gly-Gly-Trp-Glu.   |

### Application Note

It is recommended to reconstitute the lyophilized KLK1 in sterile 18M-cm H<sub>2</sub>O not less than 100 µg/ml or more than 10 mg/ml solutions. Human Kallikrein-1 active Unit Definition: 1 unit will hydrolyze 1 µmole of H-D-Val-Leu-Arg-pNA(S-2266) per minute at pH 8.0 at 37°C. Human Kallikrein-1 measured biological activity of no less than 5 Units/mg (S2266 method).

