

Klotho, Human Recombinant

CATALOG NO:	P1280-5, 20	5 µg, 20 µg
ALTERNATE NAMES:	Klotho (EC:3.2.1.31), KL, αKlotho, KLA	
SOURCE:	CHO cells	
PURITY:	≥ 98% by SDS-PAGE gel and HPLC analyses	
MOL. WEIGHT:	65-70 kDa	
FORM:	Lyophilized	
STORAGE CONDITIONS:	Store at -20°C. Avoid repeated freeze-thaw cycles.	
BIOLOGICAL ACTIVITY:	Determined by the dose-dependent stimulation of the proliferation of murine NIH-3T3 cells. Recombinant human Klotho is effective in a concentration range of 0.5-2.0 µg/ml.	
RECONSTITUTION:	Reconstitute in water to a concentration of 0.1- 1.0 mg/ml	

DESCRIPTION: Klotho is a glycosylated protein that plays an important role in the regulation of phosphate and calcium homeostasis. Human Klotho exists in both membrane bound and secreted forms, and is predominantly expressed in the kidney convoluted tubules, and to a lesser extent, in the brain, reproductive organs, endocrine glands, urinary bladder, skeletal muscle, placenta, and colon. The full length transmembrane form has a large extracellular domain composed of two homologous subunits termed KL1 and KL2, which contain 516 and 439 amino acid residues, respectively. The predominant circulating form, which is derived from alternative RNA splicing, contains the KL1 subunit and constitutes the N-terminal sequence of transmembrane Klotho. A third Klotho protein of about 128 kDa has been identified in the blood and cerebrospinal fluid. This circulating protein arises from the action of an as yet unidentified protease which cleaves transmembrane Klotho just above and/or within the plasma membrane. Klotho has been shown to play a key role in the signaling cascade of fibroblast growth factor-23 (FGF-23), a bone derived hormone that acts in the kidney to inhibit phosphate reabsorption and vitamin D biosynthesis. Klotho promotes FGF-23 signaling through binding to FGFR1 (IIIc) which converts this canonical FGF receptor into a specific receptor for FGF-23. In the absence of Klotho, the function

of FGF-23 is literally abolished. Recombinant human Klotho is a 65-70 kDa glycoprotein containing 516 amino acid residues.

RELATED PRODUCTS:

- FGF-23, human recombinant (**Cat. No. 7151**)

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