

## 32-20548: Recombinant Human Klotho(Discontinued)

**Reactivity :** Mouse, Rat  
**Alternative Name :** Alpha Klotho, KLA

### Description

#### Source:CHO cells

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 glycoprotein of 516 amino acid residues that migrates at an apparent molecular weight of 65-70 kDa by SDS-PAGE analysis under reducing conditions. Recombinant Human Klotho has a calculated molecular weight of 58.6 kDa.

### Product Info

**Amount :** 5 µg / 20 µg

**Purification :** Purity: >= 98% by SDS-PAGE gel and HPLC analyses.

**Content :** This recombinant protein is supplied in lyophilized form.

**Amino Acid :** EPGDGAQTWA RFSRPPAPEA AGLFQGTFFD GFLWAVGSAA YQTEGGWQQH GKGASIWDTF  
THHPLAPPGD SRNASLPLGA PSQLPATGD VASDSYNNVF RDTEALRELG VTHYRFSISW ARVLPNGSAG  
VPNREGLRYY RLLERLREL GVQPVTLYH WDLPQRLQDA YGGWANRALA DHFRDYAELC  
FRHFGGQVKY WITIDNPYVW AWHGYATGRL APGIRGSPRL GYLVAHNLLL AHAKVWHLYN TSFRPTQGGQ  
VSIALSSHWI NPPRMTDHSI KECQKSLDFV LGWFAKPVFI DGDYPESMKN NLSSILPDFT ESEKKFIKGT  
ADFFALCFGP TLSFQLLDPH MKFRQLESPN LRQLLSWIDL EFNHPQIFIV ENGWFVSGTT KRDDAKYMY  
LKKFIMETLK AIKLDGVDVI GYTAWSLMDG FEWHRGYSIR RGLFYVDFLS QDKMLLPKSS ALFYQKLIK  
NGFPPLPENQ PLEGTFPCDF AWGVVDNYIQ VSQTKPISS LTKPYH

### Application Note

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.