

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 AGLFQGTFPD GFLWAVGSAA YQTEGGWQQH GKGASIWDTF
THHPLAPPGD SRNASLPLGA PSPLQPATGD VASDSYNNVF RDTEALRELG VTHYRFSISW
ARVLPNGSAG VPNREGLRYY RRLERLREL GVQPVVTLYH WDLQPRLQDA YGGWANRALA
DHFRDYAELC FRHFGGQVKY WITIDNPYVV AWHGYATGRL APGIRGSPRL GYLVAHNLLL
AHAKVWHLYN TSFRPTQGGQ VSIALSSHWI NRRMTDHSI KECQKSLDFV LGWFAKPVFI
DGDYPESMKN NLSSILPDFT ESEKKFIKGT ADFFALCFGP TLSFQLLDPH MKFRQLESPN
LRQLLSWIDL EFNHPQIFIV ENGWFVSGTT KRDDAKYMY LKKFIMETLK AIKLDGVDVI
GYTAWSLMDG FEWHRGYSIR RGLFYVDFLS QDKMLLPKSS ALFYQKLIK NGFPPLPENQ
PLEGTFPCDF AWGVVDNYIQ VSQLTKPISS 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 Åµg/ml.