

# Recombinant human Klotho protein (Active) ab84072

## 6 References

### Description

<b>Product name</b>	Recombinant human Klotho protein (Active)
<b>Biological activity</b>	Determined by the dose-dependent stimulation of the proliferation of murine NIH/3T3 cells. ab84072 is effective in a concentration range of 0.5-2.0 µg/ml.
<b>Purity</b>	> 98 % SDS-PAGE. > 98% HPLC analyses.
<b>Endotoxin level</b>	< 1.000 Eu/µg
<b>Expression system</b>	CHO cells
<b>Accession</b>	<u><b>Q9UEF7</b></u>
<b>Protein length</b>	Protein fragment
<b>Animal free</b>	No
<b>Nature</b>	Recombinant
<b>Species</b>	Human
<b>Sequence</b>	EPGDGAQTWA RFSRPPAPEA AGLFQGTFPD GFLWAVGSAA YQTEGGWQQH GKGASIWDTF THHPLAPPGD SRNASLPLGA PSPLQPATGD VASDSYNNVF RDTEALRELG VTHYRFSISW ARVLPNGSAG VPNREGLRYY RLLERLREL GVQPVVTLYH WDL PQRLQDA YGGWANRALA DHFRDYAELC FRHFGGQVKY WITIDNPYVV AWHGYATGRL APGIRGSPRL GYLVAHNLLL AHAKVWHLYN TSFRPTQGGQ VSIALSSHWI NPRRMTDHSI KECQKSLDFV LGWFAKPVFI DGDYPESMKN NLSSILP DFT ESEKKFIKGT ADFFALCFGP TLSFQLLDPH MKFRQLESPN LRQLLSWIDL EFNHPQIFV ENGWFVSGTT KRDDAKYMY LKKFIMETLK AIKLDGVDVI GYTAWSLMDG FEWHRGYSIR RGLFYVDFLS QDKMLLPKSS ALFYQKLIK NGFPPLPENQ PLEGTFFPCDF AWGVVDNYQ VSQ LTKPISS LTKPYH
<b>Predicted molecular weight</b>	59 kDa
<b>Amino acids</b>	34 to 549

## Specifications

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Our **Abpromise guarantee** covers the use of **ab84072** in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

<b>Applications</b>	Functional Studies
	SDS-PAGE
	HPLC
<b>Form</b>	Lyophilized
<b>Additional notes</b>	Endotoxin level is less than 0.1 ng per µg (1EU/µg).

## Preparation and Storage

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<b>Stability and Storage</b>	Shipped at 4°C. Store at +4°C short term (1-2 weeks). Upon delivery aliquot. Store at -20°C or -80°C. Avoid freeze / thaw cycle.  This product is an active protein and may elicit a biological response in vivo, handle with caution.
<b>Reconstitution</b>	Centrifuge vial prior to opening. Reconstitute in water to a concentration of 0.1-1.0 mg/ml. Do not vortex. Store at 2°C to 8°C for 1 week, or prepare for extended storage. Extended Storage: Follow reconstitution with further dilution in a buffer containing a carrier protein (example 0.1% BSA). Store working aliquots at -20°C to -80°C. Avoid repeated freeze-thaw cycles.

## General Info

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<b>Function</b>	May have weak glycosidase activity towards glucuronylated steroids. However, it lacks essential active site Glu residues at positions 239 and 872, suggesting it may be inactive as a glycosidase in vivo. May be involved in the regulation of calcium and phosphorus homeostasis by inhibiting the synthesis of active vitamin D (By similarity). Essential factor for the specific interaction between FGF23 and FGFR1.  The Klotho peptide generated by cleavage of the membrane-bound isoform may be an anti-aging circulating hormone which would extend life span by inhibiting insulin/IGF 1 signaling.
<b>Tissue specificity</b>	Present in cortical renal tubules (at protein level). Soluble peptide is present in serum and cerebrospinal fluid. Expressed in kidney, placenta, small intestine and prostate. Down-regulated in renal cell carcinomas, hepatocellular carcinomas, and in chronic renal failure kidney.
<b>Involvement in disease</b>	Defects in KL are a cause of hyperphosphatemic familial tumoral calcinosis (HFTC) [MIM:211900]. A severe metabolic disorder that manifests with hyperphosphatemia and massive calcium deposits in the skin and subcutaneous tissues. Some patients manifest recurrent, transient, painful swellings of the long bones associated with the radiographic findings of periosteal reaction and cortical hyperostosis and absence of skin involvement.
<b>Sequence similarities</b>	Belongs to the glycosyl hydrolase 1 family. Klotho subfamily.
<b>Domain</b>	Contains 2 glycosyl hydrolase 1 regions. However, the first region lacks the essential Glu active site residue at position 239, and the second one lacks the essential Glu active site residue at position 872.
<b>Post-translational modifications</b>	N-glycosylated.
<b>Cellular localization</b>	Secreted and Cell membrane. Isoform 1 shedding leads to a soluble peptide.

**Please note:** All products are "FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC PROCEDURES"

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