

**KLOTHO Antibody**  
**Catalog # ASC11255****Specification**

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**KLOTHO Antibody - Product Information**

Application	WB, IHC-P, IF, E
Primary Accession	<a href="#">Q9UEF7</a>
Other Accession	<a href="#">NP_004786</a> , <a href="#">24497614</a>
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Calculated MW	Predicted: 111 kDa

Application Notes	Observed: 106 kDa KDa KLOTHO antibody can be used for detection of KLOTHO by Western blot at 1 - 2 µg/mL. Antibody can also be used for immunohistochemistry starting at 2.5 µg/mL. For immunofluorescence start at 20 µg/mL.
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**KLOTHO Antibody - Additional Information**

Gene ID 9365

**Target/Specificity**

KL; Three isoforms of KLOTHO are known to exist.

**Reconstitution & Storage**

KLOTHO antibody can be stored at 4°C for three months and -20°C, stable for up to one year. As with all antibodies care should be taken to avoid repeated freeze thaw cycles. Antibodies should not be exposed to prolonged high temperatures.

**Precautions**

KLOTHO Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

**KLOTHO Antibody - Protein Information**

**Name** KL

**Function**

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 (By similarity).

**Cellular Location**

[Isoform 1]: Cell membrane; Single-pass type I membrane protein. Apical cell membrane {ECO:0000250|UniProtKB:O35082}; Single-pass type I membrane protein {ECO:0000250|UniProtKB:O35082}. Note=Isoform 1 shedding leads to a soluble peptide. {ECO:0000250|UniProtKB:O35082} [Klotho peptide]: Secreted {ECO:0000250|UniProtKB:O35082}

#### **Tissue Location**

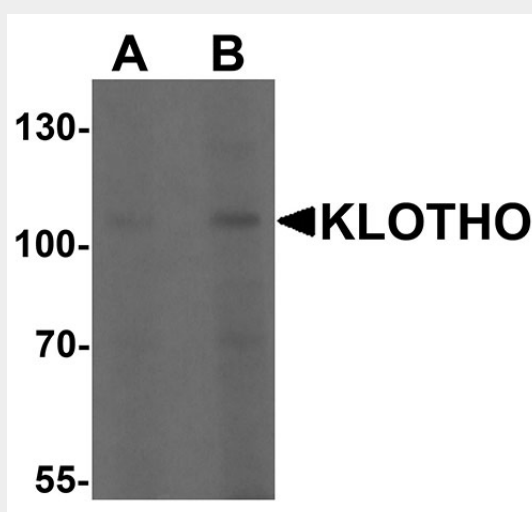
Present in cortical renal tubules (at protein level). Soluble peptide is present in serum and cerebrospinal fluid Expressed in kidney, placenta, small intestine and prostate. Down- regulated in renal cell carcinomas, hepatocellular carcinomas, and in chronic renal failure kidney.

#### **KLOTHO Antibody - Protocols**

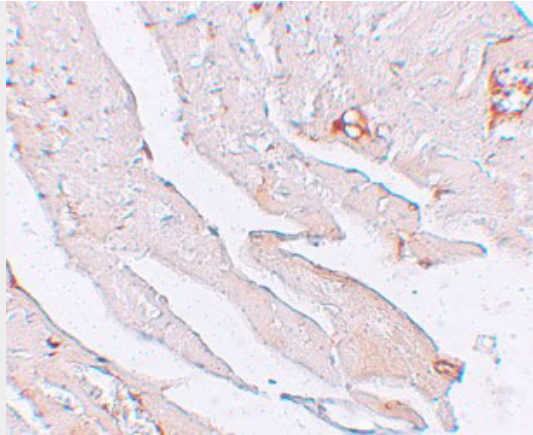
Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

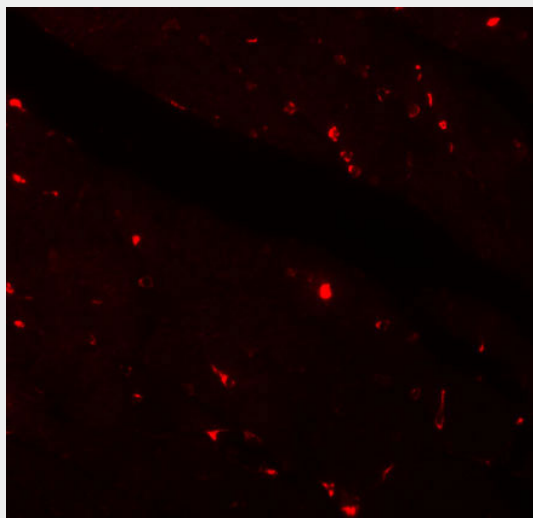
#### **KLOTHO Antibody - Images**



Western blot analysis of KLOTHO in HepG2 cell lysate with KLOTHO antibody at (A) 1 and (B) 2 µg/mL.



Immunohistochemistry of KLOTHO in mouse heart tissue with KLOTHO antibody at 2.5 µg/mL.



Immunofluorescence of KLOTHO in mouse heart tissue with KLOTHO antibody at 20 µg/mL.

### **KLOTHO Antibody - Background**

**KLOTHO Antibody:** KLOTHO is the systemic anti-aging hormone within the glycosidase1 superfamily. It encodes a type I membrane protein that is abundant in the kidney and brain. In mice, a deficiency in KLOTHO expression leads to various systemic phenotypes resembling human aging such as arteriosclerosis, osteoporosis, and skin atrophy together with growth retardation, short life-span and infertility. Transgenic mice overexpressing KLOTHO have an extended life span by inhibiting insulin/IGF1 signaling. KLOTHO is involved in the regulation of calcium/phosphorus homeostasis by inhibiting the synthesis of active vitamin D and identified as a potential tumor suppressor.

### **KLOTHO Antibody - References**

Kuro-o M, Matsumura Y, and Aizawa H. Mutation of the mouse klotho gene leads to a syndrome resembling ageing. *Nature*1997; 390:45-51.  
Kurosu H, Yamamoto M, Clark JD, et al. Suppression of aging in mice by the hormone Klotho. *Science*2005; 309:1829-33.  
Liu H, Fergusson MM, Castilho RM, et al. Augmented Wnt signaling in a mammalian model of accelerated aging. *Science* 2007; 317:803-6.  
Wolf I, Levanon-Cohen S, Bose S, et al. Klotho: a tumor suppressor and a modulator of the IGF-1 and FGF pathways in human breast cancer. *Oncogene*2008; 27:7094-105.