

Product Specification Sheet

Mouse KLOTHO (KL) Antibodies

Cat. KL11-S	Rabbit Anti-Mouse KL Antiserum	SIZE: 100 ul
Cat. KL11-A	Rabbit Anti-Mouse KL IgG (aff pure)	SIZE: 100 ug
Cat. KL11-P	Mouse KL Control/blocking peptide	SIZE: 100 ug

Animal models of human aging, which display the characteristic diseases associated with aging, provide insight into the cause of such diseases. Recently a transgenic mouse model, called **Klotho**, with several premature aging phenotypes has been described. They display premature aging phenotypes such as Osteoporosis, age related skin changes, ectopic calcifications, atrophy of genital organs and thymus, emphysema and short life span (1). KL protein associated with the Klotho mutation is a 1014 amino acid long peptide. It has a putative signal sequence at its N-terminus and a single transmembrane domain near its C-terminus, which is postulated to anchor it to the membrane (2). Human *kl* cDNA is expected to encode a protein of 1012 amino acids and has 86% homology to mouse *kl*. The extracellular domain has two internal repeats, KL-1 and KL-2 which have 20-40% sequence identity to bacterial **β -glucosidase** of plants and animals and mammalian **lactase glycosylceramidase** suggesting a role for Klotho in sphingolipid metabolism (2). *kl* gene expression was observed to be tissue specific. Improvement of systemic aging phenotypes in *kl/kl* mice occurs even when the exogenous expression was limited to some organs, suggesting that KL associated aging is regulated through a humoral signaling pathway. KL has been reported to be localized on the cell surface when expressed on Cho cells (1). Human *kl* cDNA is expected to encode a protein of 1012 amino acids and has 86% homology to mouse *kl*.

Source of Antigen and Antibodies

Antigen	17-aa peptide of mouse klotho (gene accession # O35082; refs1) ; Designated (KL11-P or control peptide) conjugated to KLH; Epitope location~ C-terminal, Cytoplasmic domain
Ab Host/type	Rabbit, Polyclonal unpurified neat antiserum (Cat # KL11-S) and IgG purified over antigen-agarose (Cat # KL11-A)
2-Ab	Cat # 20320, goat anti-rabbit IgG-HRP (AP, biotin, FITC conjugates also available).
-ve control IgG	# 20009-1, Rabbit (non-immune) IgG, purified, suitable for ELISA, Western, IHC as -ve control

Form & Storage of Antibodies/Peptide Control

Antiserum (unpurified)

100ul solution lyophilized powder
Supplied 0.05% azide, **Reconstitute** powder in 100 ul PBS

Affinity pure IgG

100 ug/100ul solution lyophilized powder
Supplied in **Buffer:** PBS+0.1% BSA
Reconstitute powder in PBS at 1mg/ml

Control/blocking peptide

100 ug/100 ul solution lyophilized powder
Supplied in Buffer: PBS pH 7.5,
Reconstitute powder in PBS at 1 mg/ml.

Storage

Short-term: unopened, undiluted liquid vials at -20OC and powder at 4oC or -20oC..

Long-term: at -20C or below in suitable aliquots after reconstitution. Do not freeze and thaw and store working, diluted solutions.

Stability: 6-12 months at -20oC or below.

Shipping: 4oC for solutions and room temp for powder

Recommended Usage

Western Blotting (1:1K-5K for neat serum and 1-10 ug/ml for affinity pure using Chemiluminescence technique).

ELISA (1:10K-1:100K; using 50-100 ng of control peptide/well).

Histochemistry & Immunofluorescence: Not tested. We recommend the use of affinity-purified antibody at 2-20 ug/ml.

Specificity & Cross-reactivity

The mouse KL11-P peptide sequence is 82% conserved in human and 76% in rat klotho. KL11-P sequence is found in isoform 1 and not isoforms 2 (missing 551-1014 aa). Antibody cross-reactivity with KL from other species is not known. Control peptide, because of its low mol. Wt (<3 kDa), is not suitable for Western. It should be used for ELISA or antibody blocking experiments (use 5-10 ug control peptide per 1 ug of aff pure IgG or 1 ul antiserum) to confirm antibody specificity (see detailed protocol at the web site).

General References: Koro-o, M. Et al. (1997) *Nature* **390**, 45-51; Martin, G. M. & Mian, I. S. *Nature* **390**, 18-19.

Citations of for ADI Antibodies (see updated list at the web site)

Segawa H 2006 Am J Physiol Renal Physiol, Feb 2007; 292: F769 - F779 IHC mouse kidney

Kurosu H 2006 JBC 281: 6120 - 6123. mouse kidney Klotho IP IP

*This product is for *in vitro* research use only.

Related material available from ADI:

Antibodies against ERAB; Per; Clock; AhR; SARP; Death Receptors 3-5; Fas Ligand; Caspases.

KL11-S-A-P 100225A

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