

Klotho (E-21): sc-22220

BACKGROUND

In Greek mythology the fate known as Klotho is a goddess who spins the thread of life. In mice, a deficiency in Klotho (*kl*) gene expression leads to various systemic phenotypes resembling human aging. Characteristics of the Klotho deficient mouse include arteriosclerosis, osteoporosis, ectopic calcification, and skin atrophy together with growth retardation, short lifespan and infertility. Mice deficient in Klotho show barely detectable amounts of white adipose tissue yet their brown adipose tissue (BAT) is comparably the same as in a normal genotype, suggesting that Klotho influences adipose differentiation. Mouse and human Klotho gene products are both characteristic type I transmembrane proteins that are approximately 80% homologous. The amino terminal extracellular domain has two internal repeats, known as KL-1 and KL-2, which have partial sequence homology to β -glucosidases and lactase glycosylceramidase, suggesting a role for Klotho in sphingolipid metabolism. The human Klotho gene maps to chromosome 13q13.1 and encodes a 1,012 amino acid protein that is abundant in the kidney and brain. Chronic renal failure (CRF) patients express lower levels of Klotho mRNA and protein in the kidneys.

CHROMOSOMAL LOCATION

Genetic locus: KL (human) mapping to 13q13.1; Kl (mouse) mapping to 5 G3.

SOURCE

Klotho (E-21) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of Klotho of human origin.

PRODUCT

Each vial contains 200 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-22220 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

APPLICATIONS

Klotho (E-21) is recommended for detection of Klotho of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

Klotho (E-21) is also recommended for detection of Klotho in additional species, including equine, canine, bovine and porcine.

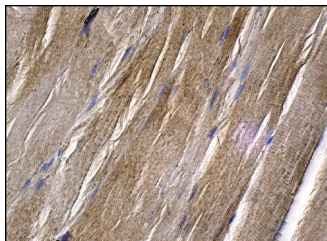
Suitable for use as control antibody for Klotho siRNA (h): sc-43883, Klotho siRNA (m): sc-77344, Klotho shRNA Plasmid (h): sc-43883-SH, Klotho shRNA Plasmid (m): sc-77344-SH, Klotho shRNA (h) Lentiviral Particles: sc-43883-V and Klotho shRNA (m) Lentiviral Particles: sc-77344-V.

Molecular Weight of Klotho: 130 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 3) Immunohistochemistry: use ImmunoCruz™: sc-2053 or ABC: sc-2023 goat IgG Staining Systems.

DATA



Klotho (E-21): sc-22220. Immunoperoxidase staining of formalin fixed, paraffin-embedded human skeletal muscle tissue showing cytoplasmic staining of myocytes.

SELECT PRODUCT CITATIONS

1. Kumata, C., et al. 2010. Involvement of α -klotho and fibroblast growth factor receptor in the development of secondary hyperparathyroidism. *Am. J. Nephrol.* 31: 230-238.
2. Krajisnik, T., et al. 2010. Parathyroid klotho and FGF-receptor 1 expression decline with renal function in hyperparathyroid patients with chronic kidney disease and kidney transplant recipients. *Kidney Int.* 78: 1024-1032.
3. Khuituan, P., et al. 2012. Fibroblast growth factor-23 abolishes 1,25-dihydroxyvitamin D₃-enhanced duodenal calcium transport in male mice. *Am. J. Physiol. Endocrinol. Metab.* 302: E903-E913.
4. Latus, J., et al. 2013. Involvement of α -klotho, fibroblast growth factor-, vitamin-D- and calcium-sensing receptor in 53 patients with primary hyperparathyroidism. *Endocrine* 44: 255-263.

RESEARCH USE

For research use only, not for use in diagnostic procedures.


 MONOS
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Try **Klotho (27Y-1): sc-74205**, our highly recommended monoclonal alternative to Klotho (E-21).