

# ANKH (C-20): sc-67446



The Power to Question

## BACKGROUND

ANKH (progressive ankylosis protein homolog) is a multi-pass transmembrane protein involved in bone mineralization and joint maintenance. ANKH is a ubiquitously expressed protein with high expression levels in the embryonic developing articular cartilage of joints in the elbow, wrist, shoulders and digits. Expression of ANKH is regulated by cytokines and various growth factors. ANKH functions as a transporter, regulating the extracellular transport of inorganic pyrophosphates (PPi). The extracellular level of inorganic pyrophosphates can both inhibit and promote different types of pathologic mineralization. Mutations in ANKH are associated with various human skeletal defects including calcium pyrophosphate deposition disease (CPPD) and craniometaphyseal dysplasia Jackson type (CMDJ).

## REFERENCES

1. Costello, J.C., et al. 2004. Modulation of chondrocyte production of extracellular inorganic pyrophosphate. *Curr. Opin. Rheumatol.* 16: 268-272.
2. Tsui, H.W., et al. 2005. ANKH variants associated with ankylosing spondylitis: gender differences. *Arthritis Res. Ther.* 7: R513-R525.
3. Zaka, R., et al. 2005. Genetics of chondrocalcinosis. *Osteoarthritis Cartil.* 13: 745-750.
4. Malkin, I., et al. 2005. Association of ANKH gene polymorphisms with radiographic hand bone size and geometry in a Chuvasha population. *Bone* 36: 365-373.
5. Coe, B.P., et al. 2005. High-resolution chromosome arm 5p array CGH analysis of small cell lung carcinoma cell lines. *Genes Chromosomes Cancer* 42: 308-313.
6. Zhang, Y., et al. 2005. Association of sporadic chondrocalcinosis with a -4-basepair G-to-A transition in the 5'-untranslated region of ANKH that promotes enhanced expression of ANKH protein and excess generation of extracellular inorganic pyrophosphate. *Arthritis Rheum.* 52: 1110-1117.
7. Gurley, K.A., et al. 2006. Biochemical and genetic analysis of ANK in arthritis and bone disease. *Am. J. Hum. Genet.* 79: 1017-1029.
8. Malkin, I., et al. 2006. Strong association between polymorphisms in ANKH locus and skeletal size traits. *Hum. Genet.* 120: 42-51.

## CHROMOSOMAL LOCATION

Genetic locus: ANKH (human) mapping to 5p15.2; Ank (mouse) mapping to 15 B1.

## SOURCE

ANKH (C-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping within a C-terminal cytoplasmic domain of ANKH of human origin.

## STORAGE

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

## PRODUCT

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

Blocking peptide available for competition studies, sc-67446 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

ANKH (C-20) is recommended for detection of ANKH 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 solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

ANKH (C-20) is also recommended for detection of ANKH in additional species, including bovine and porcine.

Suitable for use as control antibody for ANKH siRNA (h): sc-61972, ANKH siRNA (m): sc-61973, ANKH shRNA Plasmid (h): sc-61972-SH, ANKH shRNA Plasmid (m): sc-61973-SH, ANKH shRNA (h) Lentiviral Particles: sc-61972-V and ANKH shRNA (m) Lentiviral Particles: sc-61973-V.

Molecular Weight of ANKH: 55 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.

## RESEARCH USE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.