

ANKH (H-300): sc-67242

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

- Costello, J.C. and Ryan, L.M. 2004. Modulation of chondrocyte production of extracellular inorganic pyrophosphate. *Curr. Opin. Rheumatol.* 16: 268-272.
- Tsui, H.W., et al. 2005. ANKH variants associated with ankylosing spondylitis: gender differences. *Arthritis Res. Ther.* 7: R513-R525.
- Zaka, R. and Williams, C.J. 2005. Genetics of chondrocalcinosis. *Osteoarthr. Cartil.* 13: 745-750.
- 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.
- 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.
- Gurley, K.A., et al. 2006. Biochemical and genetic analysis of ANK in arthritis and bone disease. *Am. J. Hum. Genet.* 79: 1017-1029.

CHROMOSOMAL LOCATION

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

SOURCE

ANKH (H-300) is a rabbit polyclonal antibody raised against amino acids 1-300 mapping at the N-terminus of ANKH of human origin.

PRODUCT

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

STORAGE

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

RESEARCH USE

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

APPLICATIONS

ANKH (H-300) 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), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (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 (H-300) is also recommended for detection of ANKH in additional species, including canine, bovine, porcine and avian.

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.

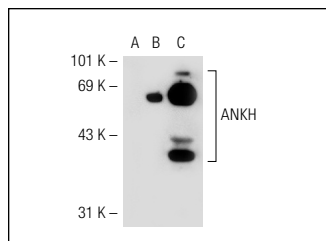
Molecular Weight of ANKH: 55 kDa.

Positive Controls: ANKH (m): 293T Lysate: sc-118402 or rat skeletal muscle extract: sc-364810.

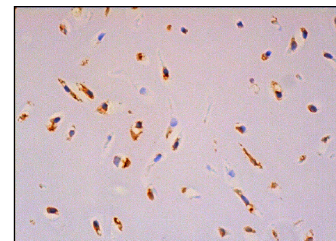
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 4) Immunohistochemistry: use ImmunoCruz™: sc-2051 or ABC: sc-2018 rabbit IgG Staining Systems.

DATA



ANKH (H-300): sc-67242. Western blot analysis of ANKH expression in non-transfected: sc-117752 (A) and mouse ANKH transfected: sc-118402 (B) 293T whole cell lysates and rat skeletal muscle tissue extract (C).



ANKH (H-300): sc-67242. Immunoperoxidase staining of formalin fixed, paraffin-embedded human cartilage tissue showing cytoplasmic staining of chondrocytes.

SELECT PRODUCT CITATIONS

- Carr, G., et al. 2009. The pyrophosphate transporter ANKH is expressed in kidney and bone cells and colocalises to the primary cilium/basal body complex. *Cell. Physiol. Biochem.* 24: 595-604.