abcam

ab211460

Anti-ANKH antibody - C-terminal

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.4 Preservative: 0.09% Sodium azide Constituents: PBS
Form	Liquid
Clonality	Polyclonal
Immunogen	Synthetic Peptide within Human ANKH aa 450-500 conjugated to Keyhole Limpet Haemocyanin. The exact immunogen used to generate this antibody is proprietary information. Database link Q9HCJ1
Purification technique	Affinity purification Immunogen
Concentration	0.5 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IHC-P

Tested

Species	Human
Dilution info	1/10 - 1/100
Notes	Perform heat-mediated antigen retrieval before commencing with IHC staining protocol.

Expected

Species	Mouse
Dilution info	Use at an assay dependent concentration.
Notes	-

WB

Tested

Species	Mouse
Dilution info	1/1000
Notes	-

Expected

Species	Human
Dilution info	Use at an assay dependent concentration.
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	-
Notes	-

Expected

Species	Mouse
Dilution info	Use at an assay dependent concentration.
Notes	-

Target data

See full target information ANKH

Function	Transports adenosine triphosphate (ATP) and possibly other nucleoside triphosphates (NTPs) from cytosol to the extracellular space. Mainly regulates their levels locally in peripheral tissues while playing a minor systemic role. Prevents abnormal ectopic mineralization of the joints by regulating the extracellular levels of the calcification inhibitor inorganic pyrophosphate (PPi), which originates from the conversion of extracellular NTPs to NMPs and PPis by ENPP1 (PubMed:20943778, PubMed:32639996, PubMed:35147247). Regulates the release of the TCA cycle intermediates to the extracellular space, in particular citrate, succinate and malate. Extracellular citrate mostly present in bone tissue is required for osteogenic differentiation of mesenchymal stem cells, stabilization of hydroxyapatite structure and overall bone strength (PubMed:32639996). The transport mechanism remains to be elucidated (Probable).

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage duration	1-2 weeks
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	-20°C
Aliquoting information	Upon delivery aliquot
Storage information	Avoid freeze / thaw cycle

Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	The ANKH protein also known as the progressive ankylosis protein homolog has a molecular weight of approximately 53 kDa. ANKH facilitates the transport of inorganic pyrophosphate (PPi) across cell membranes an essential process for mineralization in tissues. It is expressed in a variety of tissues notably in bones and joints. Besides its physiological role ANKH also influences the regulation of PPi levels in extracellular environments which is pivotal for maintaining proper bone and cartilage health.
Biological function summary	ANKH plays a significant role in maintaining PPi homeostasis. It is not known to be a part of any major protein complex but it plays a vital role in skeletal development and mineral metabolism. By managing the balance of PPi ANKH helps inhibit hydroxyapatite crystal formation a critical step in preventing pathological calcification. Its activity contributes to normal joint function and helps maintain cartilage integrity.

Pathways	ANKH is intricately involved in the mineralization pathway and the regulation of phosphate metabolism. It interacts with proteins like osteopontin and ankylosis protein to modulate mineral deposition in the extracellular matrix. The pathway's focus is on balancing phosphate levels important for bone density and structural integrity. This regulation prevents excessive deposition which can lead to calcification-related conditions.
Associated diseases and disorders	ANKH mutations are linked to conditions such as chondrocalcinosis and ankylosing spondylitis. These disorders result from impaired PPi transport leading to abnormal calcium pyrophosphate dihydrate crystal deposition in joints. ANKH's interaction with proteins such as osteopontin adds complexity to its involvement in these disorders highlighting its importance in joint health and overall mineral regulation. Proper function of ANKH is therefore essential in sustaining normal physiological bone and joint conditions.

Product promise

Tested

We have tested this species and application combination and it works. It is covered by our product promise.

Expected

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

Predicted

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

Not recommended

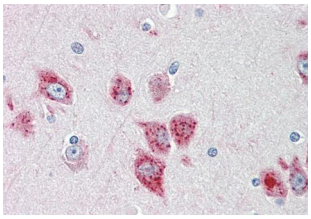
We do not recommend this combination. It is not covered by our product promise.

We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

In the unlikely event of one of our products not working as expected, you are covered by our product promise.

Full details and terms and conditions can be found here:
Terms & Conditions.

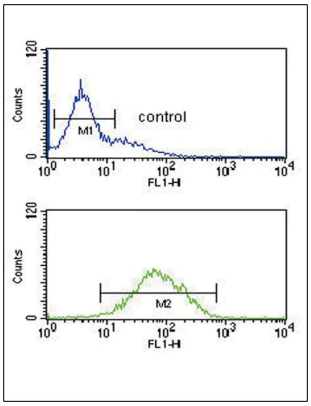
3 product images



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-ANKH antibody - C-terminal (ab211460)

ANKH Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-ANKH antibody

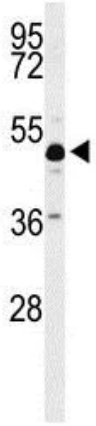
Immunohistochemical analysis of formalin-fixed, paraffin-embedded Human brain cortex tissue labeling ANKH with ab211460 at 1/10 dilution.



Flow Cytometry (Intracellular) - Anti-ANKH antibody - C-terminal (ab211460)

ANKH Flow Cytometry (Intracellular) staining using rabbit Anti-ANKH antibody

Intracellular flow cytometrical analysis of K562 cells labeling ANKH with ab211460 at 1/10 dilution (bottom histogram) compared to a negative control cell (top histogram). FITC-conjugated goat-anti-rabbit secondary antibodies were used for the analysis.



Western blot - Anti-ANKH antibody - C-terminal (ab211460)

All lanes:
Western blot - Anti-ANKH antibody - C-terminal (ab211460) at 1/1000 dilution

All lanes:
Mouse cerebellum tissue lysate at 35 µg

Predicted band size: 54 kDa

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.