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ANKLE1 Antibody

Catalog # ASC11408

Product Information

Application	WB, E
Primary Accession	Q8NAG6
Other Accession	NP_689576, 168229256
Reactivity	Human, Mouse, Rat
Host	Chicken
Clonality	Polyclonal
Isotype	IgY
Calculated MW	66890
Concentration (mg/ml)	1 mg/mL
Conjugate	Unconjugated
Application Notes	ANKLE1 antibody can be used for detection of ANKLE1 by Western blot at 1 - 2 g/mL.

Additional Information

Gene ID	126549
Other Names	Ankyrin repeat and LEM domain-containing protein 1, Ankyrin repeat domain-containing protein 41, LEM-domain containing protein 3, ANKLE1, ANKRD41, LEM3
Target/Specificity	ANKLE1; Two isoforms of ANKLE1 are known to exist. ANKLE1 antibody is predicted to not cross-react with ANKLE2
Reconstitution & Storage	ANKLE1 antibody can be stored at 4℃ for three months and -20℃, stable for up to one year. As with all antibodies care should be taken to avoid repeated freeze thaw cycles. Antibodies should not be exposed to prolonged high temperatures.
Precautions	ANKLE1 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	ANKLE1
Synonyms	ANKRD41, LEM3
Function	Structure-selective DNA endonuclease that specifically cleaves branched DNA (PubMed:22399800, PubMed:27245214, PubMed:32866453, PubMed:36825683, PubMed:37216589). Processes chromatin bridges during cytokinesis by cleaving DNA, both priming TREX1-mediated resolution and directly resolving bridges (PubMed:36825683). Proper processing of chromatin bridges prevents their breakage during cytokinesis, thereby

	reducing DNA damage, micronuclei formation, and the activation of immune responses such as the cGAS-STING pathway (PubMed:36825683). Acts as a DNA tension sensor that resolves stretched chromatin bridges during cell division by cleaving mechanically stressed and supercoiled DNA (PubMed:41361016). Its activity increases in response to mechanical stress and negative supercoiling, specifically cleaving both strands of negatively supercoiled DNA at higher stretching forces (PubMed:41361016).
Cellular Location	Cytoplasm. Nucleus. Midbody. Note=At the steady state, localizes predominantly in the cytoplasm (PubMed:22399800, PubMed:27245214) Localizes to the midbody in a KIF23 and PRC1-dependent manner (PubMed:36825683).
Tissue Location	Expression is predominant in adult bone marrow.

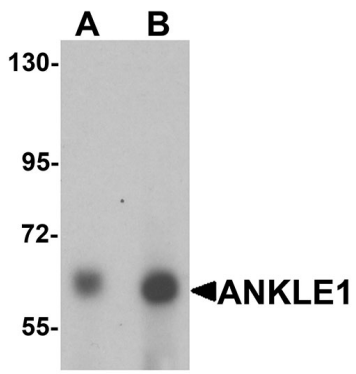
Background

ANKLE1 Antibody: Ankyrins are membrane adaptor molecules that play important roles in coupling integral membrane proteins to the spectrin-based cytoskeleton network. ANKLE1 (Ankyrin repeat and LEM domain containing 1) is a member of ankyrin repeat and LEM domain containing family. It is a potential single-pass membrane protein that contains ankyrin repeats and a Lem domain. Ankyrin repeats mediate protein-protein interactions and are among the most common structural motifs in known proteins. While the function of this protein is still under investigation, its gene locus has been associated with susceptibility to ovarian and breast cancer.

References

Lee KK and Wilson KL. All in the family: evidence for four new LEM-domain proteins Lem2 (NET-25), Lem3, Lem4 and Lem5 in the human genome. Symp. Soc. Exp. Biol. 2004; 56:329-39.
Bolton KL, Tyrer J, Song H, et al. Common variants at 19p13 are associated with susceptibility to ovarian cancer. Nat. Genet. 2010; 42:880-4.
Antoniou AC, Wang X, Fredericksen ZS, et al. A locus on 19p13 modifies risk of breast cancer in BRCA1 mutation carriers and is associated with hormone receptor-negative breast cancer in the general population. Nat. Genet. 2010; 42:885-92.

Images



Western blot analysis of ANKLE1 in 293 cell lysate with ANKLE1 antibody at (A) 1 and (B) 2 µg/mL.

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