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DCLRE1C Antibody (N-term)

Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP9737a

Product Information

Application	IHC-P, WB, E
Primary Accession	Q96SD1
Reactivity	Human, Rat, Mouse
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB24410
Calculated MW	78436
Antigen Region	21-50

Additional Information

Gene ID	64421
Other Names	Protein artemis, 31--, DNA cross-link repair 1C protein, Protein A-SCID, SNM1 homolog C, hSNM1C, SNM1-like protein, DCLRE1C, ARTEMIS, ASCID, SCIDA, SNM1C
Target/Specificity	This DCLRE1C antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 21-50 amino acids from the N-terminal region of human DCLRE1C.
Dilution	IHC-P~~1:100~500 WB~~1:2000 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	DCLRE1C Antibody (N-term) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	DCLRE1C (HGNC:17642)
Function	Nuclease involved in DNA non-homologous end joining (NHEJ); required for double-strand break repair and V(D)J recombination (PubMed:11336668, PubMed:11955432, PubMed:12055248, PubMed:14744996,

PubMed:15071507, PubMed:15574326, PubMed:15936993). Required for V(D)J recombination, the process by which exons encoding the antigen-binding domains of immunoglobulins and T-cell receptor proteins are assembled from individual V, (D), and J gene segments (PubMed:11336668, PubMed:11955432, PubMed:14744996). V(D)J recombination is initiated by the lymphoid specific RAG endonuclease complex, which generates site specific DNA double strand breaks (DSBs) (PubMed:11336668, PubMed:11955432, PubMed:14744996). These DSBs present two types of DNA end structures: hairpin sealed coding ends and phosphorylated blunt signal ends (PubMed:11336668, PubMed:11955432, PubMed:14744996). These ends are independently repaired by the non homologous end joining (NHEJ) pathway to form coding and signal joints respectively (PubMed:11336668, PubMed:11955432, PubMed:14744996). This protein exhibits single-strand specific 5'-3' exonuclease activity in isolation and acquires endonucleolytic activity on 5' and 3' hairpins and overhangs when in a complex with PRKDC (PubMed:11955432, PubMed:15071507, PubMed:15574326, PubMed:15936993). The latter activity is required specifically for the resolution of closed hairpins prior to the formation of the coding joint (PubMed:11955432). Also required for the repair of complex DSBs induced by ionizing radiation, which require substantial end-processing prior to religation by NHEJ (PubMed:15456891, PubMed:15468306, PubMed:15574327, PubMed:15811628).

Cellular Location Nucleus

Tissue Location Ubiquitously expressed, with highest levels in the kidney, lung, pancreas and placenta (at the mRNA level). Expression is not increased in thymus or bone marrow, sites of V(D)J recombination

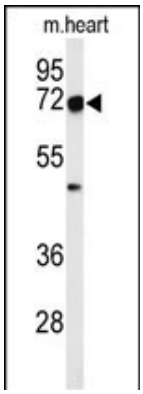
Background

DCLRE1C is a nuclear protein that is involved in V(D)J recombination and DNA repair. The protein has single-strand-specific 5'-3' exonuclease activity; it also exhibits endonuclease activity on 5' and 3' overhangs and hairpins when complexed with protein kinase, DNA-activated, catalytic polypeptide.

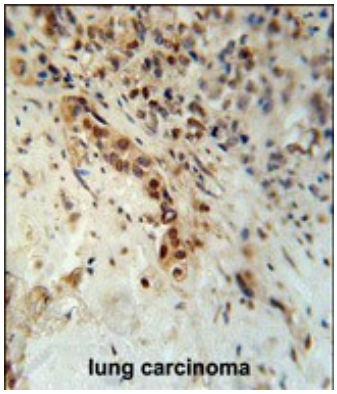
References

Beucher, A., et al. EMBO J. 28(21):3413-3427(2009)
Rivera-Munoz, P., et al. Blood 114(17):3601-3609(2009)
Wang, H., et al. J. Biol. Chem. 284(27):18236-18243(2009)

Images



Western blot analysis of DCLRE1C Antibody (N-term) (Cat. #AP9737a) in mouse heart tissue lysates (35ug/lane). DCLRE1C (arrow) was detected using the purified Pab.



DCLRE1C Antibody (N-term) (Cat. #AP9737a) immunohistochemistry analysis in formalin fixed and paraffin embedded human lung carcinoma followed by peroxidase conjugation of the secondary antibody and DAB staining. This data demonstrates the use of the DCLRE1C Antibody (N-term) for immunohistochemistry. Clinical relevance has not been evaluated.