

Anti-ARTEMIS (DCLRE1C DNA cross-link repair 1C) [GOAT] Antibody
ARTEMIS Antibody
Catalog # ASR5092**Specification****Anti-ARTEMIS (DCLRE1C DNA cross-link repair 1C) [GOAT] Antibody - Product Information**

Host	Goat
Conjugate	Unconjugated
Target Species	Human
Reactivity	Human
Clonality	Polyclonal
Application	WB, IHC, E, I, LCI
Application Note	This affinity purified antibody has been tested for use in ELISA, immunohistochemistry and western blotting. Reactivity in other immunoassays is unknown. This antibody detects a band of approximately 90 kDa (predicted molecular weight: 78 kDa).
Physical State	Liquid (sterile filtered)
Buffer	0.02 M Potassium Phosphate, 0.15 M Sodium Chloride, pH 7.2
Immunogen	This affinity purified antibody was prepared from whole goat serum produced by repeated immunizations with a synthetic peptide corresponding an internal region of Human ARTEMIS (DCLRE1C DNA cross-link repair 1C).
Preservative	0.01% (w/v) Sodium Azide

Anti-ARTEMIS (DCLRE1C DNA cross-link repair 1C) [GOAT] Antibody - Additional Information**Gene ID** 64421**Other Names**
64421**Purity**

This is an affinity purified antibody produced by immunoaffinity chromatography using the immunizing peptide after immobilization to a solid phase. This antibody detects a band of the appropriate size in a number of different cell lines. However, it does not detect a band in cell lines that do not express artemis, such as the cell line CJ (see figure) and in an hTERT line (not shown).

Storage Condition

Store vial at -20° C prior to opening. Aliquot contents and freeze at -20° C or below for extended storage. Avoid cycles of freezing and thawing. Centrifuge product if not completely clear after standing at room temperature. This product is stable for several weeks at 4° C as an undiluted liquid. Dilute only prior to immediate use.

Precautions Note

This product is for research use only and is not intended for therapeutic or diagnostic applications.

Anti-ARTEMIS (DCLRE1C DNA cross-link repair 1C) [GOAT] Antibody - 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](http://www.uniprot.org/citations/11336668) target="_blank">11336668, PubMed: [11955432](http://www.uniprot.org/citations/11955432) target="_blank">11955432, PubMed: [12055248](http://www.uniprot.org/citations/12055248) target="_blank">12055248, PubMed: [14744996](http://www.uniprot.org/citations/14744996) target="_blank">14744996, PubMed: [15071507](http://www.uniprot.org/citations/15071507) target="_blank">15071507, PubMed: [15574326](http://www.uniprot.org/citations/15574326) target="_blank">15574326, PubMed: [15936993](http://www.uniprot.org/citations/15936993) target="_blank">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](http://www.uniprot.org/citations/11336668) target="_blank">11336668, PubMed: [11955432](http://www.uniprot.org/citations/11955432) target="_blank">11955432, PubMed: [14744996](http://www.uniprot.org/citations/14744996) target="_blank">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](http://www.uniprot.org/citations/11336668) target="_blank">11336668, PubMed: [11955432](http://www.uniprot.org/citations/11955432) target="_blank">11955432, PubMed: [14744996](http://www.uniprot.org/citations/14744996) target="_blank">14744996). These DSBs present two types of DNA end structures: hairpin sealed coding ends and phosphorylated blunt signal ends (PubMed: [11336668](http://www.uniprot.org/citations/11336668) target="_blank">11336668, PubMed: [11955432](http://www.uniprot.org/citations/11955432) target="_blank">11955432, PubMed: [14744996](http://www.uniprot.org/citations/14744996) target="_blank">14744996). These ends are independently repaired by the non homologous end joining (NHEJ) pathway to form coding and signal joints respectively (PubMed: [11336668](http://www.uniprot.org/citations/11336668) target="_blank">11336668, PubMed: [11955432](http://www.uniprot.org/citations/11955432) target="_blank">11955432, PubMed: [14744996](http://www.uniprot.org/citations/14744996) target="_blank">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](http://www.uniprot.org/citations/11955432) target="_blank">11955432, PubMed: [15071507](http://www.uniprot.org/citations/15071507) target="_blank">15071507, PubMed: [15574326](http://www.uniprot.org/citations/15574326) target="_blank">15574326, PubMed: [15936993](http://www.uniprot.org/citations/15936993) target="_blank">15936993). The latter activity is required specifically for the resolution of closed hairpins prior to the formation of the coding joint (PubMed: [11955432](http://www.uniprot.org/citations/11955432) target="_blank">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](http://www.uniprot.org/citations/15456891) target="_blank">15456891, PubMed: [15468306](http://www.uniprot.org/citations/15468306) target="_blank">15468306, PubMed: [15574327](http://www.uniprot.org/citations/15574327) target="_blank">15574327, PubMed: [15811628](http://www.uniprot.org/citations/15811628) target="_blank">15811628).

Cellular Location

Nucleus

Tissue Location

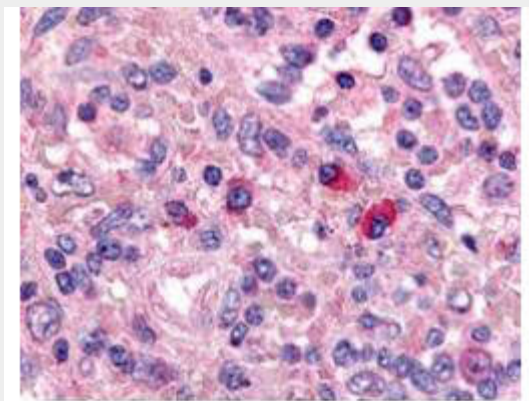
Ubiquitously expressed, with highest levels in the kidney, lung, pancreas and placenta (at the mRNA level). Expression is not increased in thymus or bone marrow, sites of V(D)J recombination

Anti-ARTEMIS (DCLRE1C DNA cross-link repair 1C) [GOAT] Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

Anti-ARTEMIS (DCLRE1C DNA cross-link repair 1C) [GOAT] Antibody - Images



Rockland's Affinity Purified anti-Artemis antibody was used at a 1:1000 dilution to detect Artemis by immunohistochemistry in human spleen. Positive staining of T cells and B lymphocytes is observed in thymus, lymph nodes and spleen. Tissue was formalin-fixed and paraffin embedded. Personal Communication, Alan Yen, LifeSpanBiosciences, Seattle, WA.

Anti-ARTEMIS (DCLRE1C DNA cross-link repair 1C) [GOAT] Antibody - Background

Artemis has a role in T and B lymphocyte immunodeficiency and in predisposition to lymphoma through the NHEJ pathway of DNA repair. DNA-PKcs regulates Artemis by both phosphorylation and complex formation to permit enzymatic activities that are critical for the hairpin-opening step of V(D)J recombination and for the 5' and 3' overhang processing in non-homologous DNA end joining.