

Artemis (DCLREIC) Antibody
Rabbit Polyclonal Antibody
Catalog # ABV10233**Specification**

Artemis (DCLREIC) Antibody - Product Information

Application	WB
Primary Accession	O96SD1
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Calculated MW	78436

Artemis (DCLREIC) Antibody - Additional Information**Gene ID** 64421

Positive Control	3T3 cell lysate
Application & Usage	Western blot: 1:200
Other Names	
DNA cross-link repair 1C protein, SNM1-like protein	

Target/Specificity

Artemis

Antibody Form

Liquid

Appearance

Colorless liquid

Formulation

100 µg (0.5 mg/ml) of antibody in PBS, 0.01 % BSA, 0.01 % thimerosal, and 50 % glycerol, pH 7.2

Handling

The antibody solution should be gently mixed before use.

Reconstitution & Storage

-20 °C

Background Descriptions**Precautions**

Artemis (DCLREIC) Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Artemis (DCLREIC) 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), PubMed:[11955432](http://www.uniprot.org/citations/11955432), PubMed:[12055248](http://www.uniprot.org/citations/12055248), PubMed:[14744996](http://www.uniprot.org/citations/14744996), PubMed:[15071507](http://www.uniprot.org/citations/15071507), PubMed:[15574326](http://www.uniprot.org/citations/15574326), PubMed:[15936993](http://www.uniprot.org/citations/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), PubMed:[11955432](http://www.uniprot.org/citations/11955432), PubMed:[14744996](http://www.uniprot.org/citations/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), PubMed:[11955432](http://www.uniprot.org/citations/11955432), PubMed:[14744996](http://www.uniprot.org/citations/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), PubMed:[11955432](http://www.uniprot.org/citations/11955432), PubMed:[14744996](http://www.uniprot.org/citations/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), PubMed:[11955432](http://www.uniprot.org/citations/11955432), PubMed:[14744996](http://www.uniprot.org/citations/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:[15071507](http://www.uniprot.org/citations/15071507), PubMed:[15574326](http://www.uniprot.org/citations/15574326), PubMed:[11955432](http://www.uniprot.org/citations/11955432), PubMed:[15936993](http://www.uniprot.org/citations/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)). 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), PubMed:[15468306](http://www.uniprot.org/citations/15468306), PubMed:[15574327](http://www.uniprot.org/citations/15574327), PubMed:[15811628](http://www.uniprot.org/citations/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

Artemis (DCLRE1C) 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](#)

Artemis (DCLREIC) Antibody - Images

Artemis (DCLREIC) Antibody - Background

Artemis is a 78 kDa protein, belonging to metallo-beta-lactamase superfamily. It is involved in endonuclease activity to break DNA hairpins. It also has been reported that the C-terminus of Artemis interacts with DNA binding domain of Ligase IV directly. Ligase IV is a key enzyme in DNA repair and V(D)J recombination. Thus, Artemis is a novel protein that is involved in V(D)J recombination/DNA repair. Mutations cause human T-B-severe combined immunodeficiency associated with increased cellular radiosensitivity (RS-SCID).