10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

GEN1 Antibody (N-term)

Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP9493a

Product Information

Application	WB, E
Primary Accession	Q17RS7
Reactivity	Human, Mouse
Predicted	Rat, Bovine, Canine, Rabbit, Chicken
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Calculated MW	102884
Antigen Region	60-89

Additional Information

Gene ID	348654
Other Names	Flap endonuclease GEN homolog 1, 31--, GEN1
Target/Specificity	This GEN1 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 60-89 amino acids from the N-terminal region of human GEN1.
Dilution	WB~~1:1000 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	GEN1 Antibody (N-term) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	GEN1
Function	Endonuclease which resolves Holliday junctions (HJs) by the introduction of symmetrically related cuts across the junction point, to produce nicked duplex products in which the nicks can be readily ligated. Four-way DNA intermediates, also known as Holliday junctions, are formed during homologous recombination and DNA repair, and their resolution is necessary

for proper chromosome segregation (PubMed:19020614, PubMed:26682650). Cleaves HJs by a nick and counter- nick mechanism involving dual coordinated incisions that lead to the formation of ligatable nicked duplex products. Cleavage of the first strand is rate limiting, while second strand cleavage is rapid. Largely monomeric, dimerizes on the HJ and the first nick occurs upon dimerization at the junction (PubMed:26578604). Efficiently cleaves both single and double HJs contained within large recombination intermediates. Exhibits a weak sequence preference for incision between two G residues that reside in a T-rich region of DNA (PubMed:28049850). Also has endonuclease activity on 5'-flap and replication fork (RF) DNA substrates (PubMed:26578604).

Cellular Location Nucleus

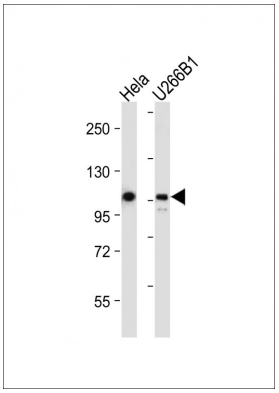
Background

Endonuclease which cleaves flap structures at the junction between single-stranded DNA and double-stranded DNA. Specific for 5'-overhanging flap structures in which the 5'-upstream of the flap is completely double-stranded. Prefers the blocked-flap structures similar to those occurring at replication forks, in which the 5' single-strand overhang of the flap is double-stranded (By similarity).

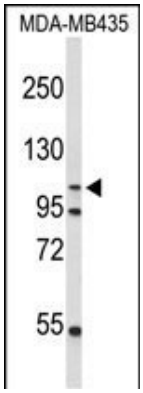
References

Ip, S.C., et al. Nature 456(7220):357-361(2008)
Ishikawa, G., et al. Nucleic Acids Res. 32(21):6251-6259(2004)

Images

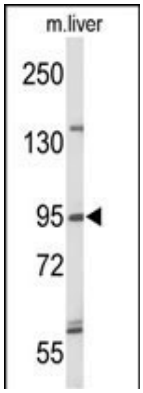


All lanes : Anti-GEN1 Antibody (N-term) at 1:2000 dilution Lane 1: Hela whole cell lysate Lane 2: U266B1 whole cell lysate Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/10000 dilution. Predicted band size : 103 kDa Blocking/Dilution buffer: 5% NFDM/TBST.



Western blot analysis of GEN1 Antibody (N-term) (Cat. #AP9493a) in MDA-MB435 cell line lysates (35ug/lane). GEN1 (arrow) was detected using the purified Pab;

Western blot analysis of GEN1 Antibody (N-term) (Cat. #AP9493a) in mouse liver tissue lysates (35ug/lane). GEN1 (arrow) was detected using the purified Pab.



Citations

- ATRX and RECQ5 define distinct homologous recombination subpathways

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