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NEIL3 Antibody(Center)

Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP19397C

Product Information

Application	WB, E
Primary Accession	Q8TAT5
Other Accession	NP_060718.2
Reactivity	Human
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB40413
Calculated MW	67769
Antigen Region	292-320

Additional Information

Gene ID	55247
Other Names	Endonuclease 8-like 3, 322-, DNA glycosylase FPG2, DNA glycosylase/AP lyase Neil3, Endonuclease VIII-like 3, Nei-like protein 3, NEIL3
Target/Specificity	This NEIL3 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 292-320 amino acids from the Central region of human NEIL3.
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	NEIL3 Antibody(Center) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	NEIL3
Function	DNA glycosylase which prefers single-stranded DNA (ssDNA), or partially ssDNA structures such as bubble and fork structures, to double-stranded DNA (dsDNA) (PubMed:12433996, PubMed:19170771, PubMed:22569481,

PubMed:23755964). Mediates interstrand cross-link repair in response to replication stress: acts by mediating DNA glycosylase activity, cleaving one of the two N-glycosyl bonds comprising the interstrand cross-link, which avoids the formation of a double-strand break but generates an abasic site that is bypassed by translesion synthesis polymerases (By similarity). In vitro, displays strong glycosylase activity towards the hydantoin lesions spiroiminodihydantoin (Sp) and guanidinohydantoin (Gh) in both ssDNA and dsDNA; also recognizes FapyA, FapyG, 5-OHU, 5-OHC, 5-OHMH, Tg and 8-oxoA lesions in ssDNA (PubMed:12433996, PubMed:19170771, PubMed:22569481, PubMed:23755964). No activity on 8-oxoG detected (PubMed:12433996, PubMed:19170771, PubMed:22569481, PubMed:23755964). Also shows weak DNA-(apurinic or apyrimidinic site) lyase activity (PubMed:12433996, PubMed:19170771, PubMed:22569481, PubMed:23755964). In vivo, appears to be the primary enzyme involved in removing Sp and Gh from ssDNA in neonatal tissues (PubMed:12433996, PubMed:19170771, PubMed:22569481, PubMed:23755964).

Cellular Location

Nucleus. Chromosome {ECO:0000250|UniProtKB:A0A1L8HU22}. Note=Recruited to replication stress sites via interaction with ubiquitinated CMG helicase {ECO:0000250|UniProtKB:A0A1L8HU22}

Tissue Location

Expressed in keratinocytes and embryonic fibroblasts (at protein level). Also detected in thymus, testis and fetal lung primary fibroblasts.

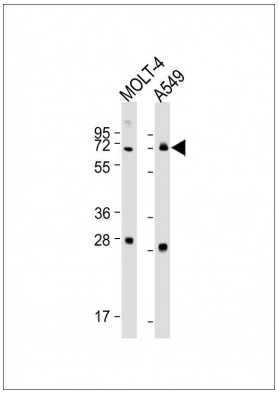
Background

NEIL3 belongs to a class of DNA glycosylases homologous to the bacterial Fpg/Nei family. These glycosylases initiate the first step in base excision repair by cleaving bases damaged by reactive oxygen species and introducing a DNA strand break via the associated lyase reaction (Bandaru et al., 2002 [PubMed 12509226]).

References

Krokeide, S.Z., et al. Protein Expr. Purif. 65(2):160-164(2009)
Takao, M., et al. Genes Cells 14(2):261-270(2009)
Dallosso, A.R., et al. Gut 57(9):1252-1255(2008)
Bethke, L., et al. J. Natl. Cancer Inst. 100(4):270-276(2008)
Newton-Cheh, C., et al. BMC Med. Genet. 8 SUPPL 1, S7 (2007) :

Images



All lanes : Anti-NEIL3 Antibody (Center) at 1:1000-1:2000 dilution Lane 1: MOLT-4 whole cell lysate Lane 2: A549 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 : 68 kDa Blocking/Dilution buffer: 5% NFDM/TBST.