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NEIL3 Polyclonal Antibody

Catalog # AP71214

Product Information

Application	WB, IHC-P
Primary Accession	Q8TAT5
Reactivity	Human, Mouse
Host	Rabbit
Clonality	Polyclonal
Calculated MW	67769

Additional Information

Gene ID	55247
Other Names	NEIL3; Endonuclease 8-like 3; DNA glycosylase FPG2; DNA glycosylase/AP lyase Neil3; Endonuclease VIII-like 3; Nei-like protein 3
Dilution	WB~~Western Blot: 1/500 - 1/2000. Immunohistochemistry: 1/100 - 1/300. ELISA: 1/40000. Not yet tested in other applications. IHC-P~~N/A
Format	Liquid in PBS containing 50% glycerol, 0.5% BSA and 0.09% (W/V) sodium azide.
Storage Conditions	-20℃

Protein Information

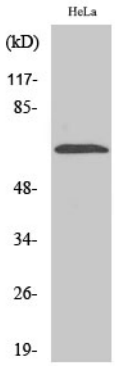
Name	NEIL3
Function	DNA glycosylase which prefers single-stranded DNA (ssDNA), or partially ssDNA structures such as bubble and fork structures, to double-stranded DNA (dsDNA) (PubMed:12433996, PubMed:19170771, PubMed:22569481, PubMed:23755964). Mediates interstrand cross-link repair in response to replication 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

DNA glycosylase which prefers single-stranded DNA (ssDNA), or partially ssDNA structures such as bubble and fork structures, to double-stranded DNA (dsDNA). 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. No activity on 8-oxoG detected. Also shows weak DNA-(apurinic or apyrimidinic site) lyase activity. In vivo, appears to be the primary enzyme involved in removing Sp and Gh from ssDNA in neonatal tissues. Seems to be an important facilitator of cell proliferation in certain populations, for example neural stem/progenitor cells and tumor cells, suggesting a role in replication-associated DNA repair.

Images



Western Blot analysis of various cells using NEIL3 Polyclonal Antibody diluted at 1：2000 cells nucleus extracted by Minute TM Cytoplasmic and Nuclear Fractionation kit (SC-003,Inventbiotech,MN,USA).