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NEIL3 Antibody
Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP51383

Specification

NEIL3 Antibody - Product Information

Application	**WB**
Primary Accession	Q8TAT5
Reactivity	**Human, Mouse, Rat**
Host	**Rabbit**
Clonality	**Polyclonal**
Calculated MW	**68 KDa**
Antigen Region	**481 - 540**

NEIL3 Antibody - 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
KLH conjugated synthetic peptide derived from human NEIL3

Dilution
WB~~ 1:1000

Format
0.01M PBS, pH 7.2, 0.09% (W/V) Sodium azide, Glycerol 50%

Storage
Store at -20 °C.Stable for 12 months from date of receipt

NEIL3 Antibody - 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.

NEIL3 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 Cytomety
- Cell Culture

NEIL3 Antibody - Images

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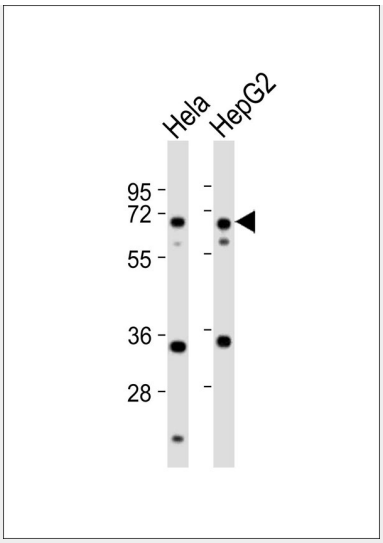

All lanes : Anti-NEIL3 Antibody at 1:1000 dilution Lane 1: Hela whole cell lysates Lane 2: HepG2 whole cell lysates Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Rabbit IgG, (H+L),Peroxidase conjugated at 1/10000 dilution Predicted band size : 68 kDa Blocking/Dilution buffer: 5% NFDM/TBST.

NEIL3 Antibody - 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.

NEIL3 Antibody - References

Takao M.,et al.J. Biol. Chem. 277:42205-42213(2002).
Ota T.,et al.Nat. Genet. 36:40-45(2004).
Hillier L.W.,et al.Nature 434:724-731(2005).
Morland I.,et al.Nucleic Acids Res. 30:4926-4936(2002).
Torisu K.,et al.J. Biochem. 138:763-772(2005).