

NEIL3 (M-194): sc-134835

BACKGROUND

NEIL1, NEIL2 and NEIL3, also known as endonuclease VIII-like 1, 2 and 3 or DNA-(apurinic or apyrimidinic site) lyase NEIL 1, 2 and 3, are nuclear proteins involved in the repair of DNA damaged by oxidation. The NEIL proteins belong to the FPG family. They act as DNA glycosylases that can recognize and remove damaged bases, leaving an abasic site. NEIL3, however, lacks the proline residue at the N-terminus which acts as the active site residue found in NEIL1 and NEIL2. Thus, reports of NEIL3 DNA glycosylase activity are contradictory. NEIL3 localizes to the nucleus and only demonstrates expression in thymus and testis tissues. The deduced 605 amino acid NEIL3 protein contains one FPG-type zinc finger and one RanBP2-type zinc finger.

REFERENCES

- Morland, I., et al. 2002. Human DNA glycosylases of the bacterial Fpg/MutM superfamily: an alternative pathway for the repair of 8-oxoguanine and other oxidation products in DNA. *Nucleic Acids Res.* 30: 4926-4936.
- Takao, M., et al. 2002. A backup glycosylase in Nth1 knockout mice is a functional Nei (endonuclease VIII) homologue. *J. Biol. Chem.* 277: 42205-42213.
- Rosenquist, T.A., et al. 2003. The novel DNA glycosylase, NEIL1, protects mammalian cells from radiation-mediated cell death. *DNA Repair* 2: 581-591.
- Inoue, M., et al. 2004. Expression of the oxidative base excision repair enzymes is not induced in TK6 human lymphoblastoid cells after low doses of ionizing radiation. *Radiat. Res.* 161: 409-417.
- Colley, J., et al. 2005. Rapid recognition of aberrant dHPLC elution profiles using the Transgenomic Navigator software. *Hum. Mutat.* 26: 165.
- Toritsu, K., et al. 2006. Hemato-poietic tissue-specific expression of mouse NEIL3 for endonuclease VIII-like protein. *J. Biochem.* 138: 763-772.
- LocusLink Report (LocusID: 55247). <http://www.ncbi.nlm.nih.gov/LocusLink/>

CHROMOSOMAL LOCATION

Genetic locus: NEIL3 (human) mapping to 4q34.3; Neil3 (mouse) mapping to 8 B1.3.

SOURCE

NEIL3 (M-194) is a rabbit polyclonal antibody raised against amino acids 1-194 mapping at the N-terminus of NEIL3 of mouse origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

APPLICATIONS

NEIL3 (M-194) is recommended for detection of NEIL3 of mouse, rat and, to a lesser extent, human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

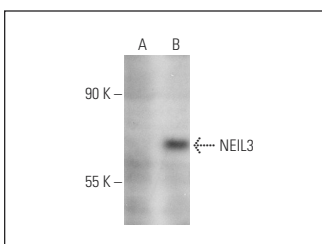
Suitable for use as control antibody for NEIL3 siRNA (h): sc-61170, NEIL3 siRNA (m): sc-61171, NEIL3 shRNA Plasmid (h): sc-61170-SH, NEIL3 shRNA Plasmid (m): sc-61171-SH, NEIL3 shRNA (h) Lentiviral Particles: sc-61170-V and NEIL3 shRNA (m) Lentiviral Particles: sc-61171-V.

Molecular Weight of NEIL3: 67.9 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



NEIL3 (M-194): sc-134835. Western blot analysis of NEIL3 expression in non-transfected: sc-117752 (A) and mouse NEIL3 transfected: sc-121995 (B) 293T whole cell lysates.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

MONOS
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Try **NEIL3 (A-1): sc-393703** or **NEIL3 (F-6): sc-393531**, our highly recommended monoclonal alternatives to NEIL3 (M-194).