

NEIL2 (2626C2a): sc-81566

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 of proteins. 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. NEIL1 is a ubiquitously expressed protein that is upregulated during S phase. NEIL2 is expressed primarily in testis, heart, skeletal muscle, placenta, brain, kidney and liver while NEIL3 is detected primarily in thymus and testis.

REFERENCES

- Hazra, T.K., et al. 2002. Identification and characterization of a novel human DNA glycosylase for repair of cytosine-derived lesions. *J. Biol. Chem.* 277: 30417-30420.
- Dou, H., et al. 2003. Repair of oxidized bases in DNA bubble structures by human DNA glycosylases NEIL1 and NEIL2. *J. Biol. Chem.* 278: 49679-49684.
- Bhakat, K.K., et al. 2004. Acetylation of the human DNA glycosylase NEIL2 and inhibition of its activity. *Nucleic Acids Res.* 32: 3033-3039.
- Das, A., et al. 2004. Identification of a zinc finger domain in the human NEIL2 (Nei-like-2) protein. *J. Biol. Chem.* 279: 47132-47138.
- Hailer, M.K., et al. 2005. Recognition of the oxidized lesions spiroiminodihydantoin and guanidinohydantoin in DNA by the mammalian base excision repair glycosylases NEIL1 and NEIL2. *DNA Repair* 4: 41-50.
- Conlon, K.A., et al. 2005. The murine DNA glycosylase NEIL2 (mNEIL2) and human DNA polymerase β bind microtubules *in situ* and *in vitro*. *DNA Repair* 4: 419-431.

CHROMOSOMAL LOCATION

Genetic locus: NEIL2 (human) mapping to 8p23.1; Neil2 (mouse) mapping to 14 D1.

SOURCE

NEIL2 (2626C2a) is a mouse monoclonal antibody raised against a recombinant protein corresponding to the N-terminal region of NEIL2 of human origin.

PRODUCT

Each vial contains 100 μ g IgG₁ in 1.0 ml of PBS with < 0.1% sodium azide and 1.0% stabilizer protein.

STORAGE

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

RESEARCH USE

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

APPLICATIONS

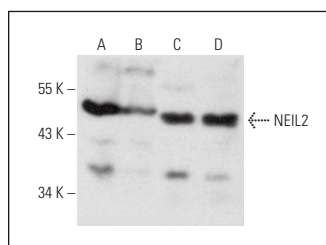
NEIL2 (2626C2a) is recommended for detection of NEIL2 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)].

Suitable for use as control antibody for NEIL2 siRNA (h): sc-61168, NEIL2 siRNA (m): sc-61169, NEIL2 shRNA Plasmid (h): sc-61168-SH, NEIL2 shRNA Plasmid (m): sc-61169-SH, NEIL2 shRNA (h) Lentiviral Particles: sc-61168-V and NEIL2 shRNA (m) Lentiviral Particles: sc-61169-V.

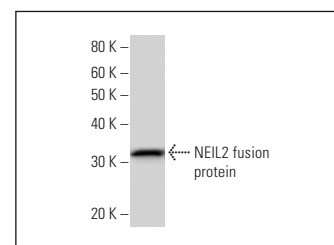
Molecular Weight of NEIL2: 37 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, NIH/3T3 whole cell lysate: sc-2210 or THP-1 nuclear extract: sc-24963.

DATA



NEIL2 (2626C2a): sc-81566. Western blot analysis of NEIL2 expression in HeLa (A) and NIH/3T3 (B) whole cell lysates and THP-1 (C) and F9 (D) nuclear extracts.



NEIL2 (2626C2a): sc-81566. Western Blot analysis of human recombinant NEIL2 fusion protein.

SELECT PRODUCT CITATIONS

- Aamann, M.D., et al. 2014. Cockayne syndrome group B protein stimulates NEIL2 DNA glycosylase activity. *Mech. Ageing Dev.* 135: 1-14.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.