

NEIL2 (P-19): sc-47614

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. 2004. 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 (P-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of NEIL2 of human origin.

PRODUCT

Each vial contains 200 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin. Also available as TransCruz reagent for Gel Supershift and ChIP applications, sc-47614 X, 200 μ g/0.1 ml.

Blocking peptide available for competition studies, sc-47614 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

RESEARCH USE

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

APPLICATIONS

NEIL2 (P-19) 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), 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).

NEIL2 (P-19) is also recommended for detection of NEIL2 in additional species, including equine.

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.

NEIL2 (P-19) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of NEIL2: 37 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

STORAGE

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

PROTOCOLS

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



Try **NEIL2 (2626C2a): sc-81566**, our highly recommended monoclonal alternative to NEIL2 (P-19).