

NEIL1 (h): 293T Lysate: sc-171612

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

1. 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.
2. 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.
3. Shinmura, K., et al. 2004. Inactivating mutations of the human base excision repair gene NEIL1 in gastric cancer. *Carcinogenesis* 25: 2311-2317.
4. Das, A., et al. 2004. Identification of a zinc finger domain in the human NEIL2 protein. *J. Biol. Chem.* 279: 47132-47138.
5. Mokkapati, S.K., et al. 2004. Stimulation of DNA glycosylase activity of OGG1 by NEIL1: functional collaboration between two human DNA glycosylases. *Biochemistry* 43: 11596-11604.
6. Hailer, M.K., et al. 2005. Recognition of the oxidized lesions spiroiminodihydantoin and guanidinohydantoin in DNA by the mammalian base excision repair DNA. *DNA Repair* 4: 41-50.

CHROMOSOMAL LOCATION

Genetic locus: NEIL1 (human) mapping to 15q24.2.

PRODUCT

NEIL1 (h): 293T Lysate represents a lysate of human NEIL1 transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

RESEARCH USE

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

APPLICATIONS

NEIL1 (h): 293T Lysate is suitable as a Western Blotting positive control for human reactive NEIL1 antibodies. Recommended use: 10-20 µl per lane.

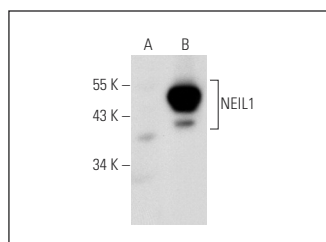
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

NEIL1 (D-1): sc-271164 is recommended as a positive control antibody for Western Blot analysis of enhanced human NEIL1 expression in NEIL1 transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended:
 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048.

DATA



NEIL1 (D-1): sc-271164. Western blot analysis of NEIL1 expression in non-transfected: sc-117752 (A) and human NEIL1 transfected: sc-171612 (B) 293T whole cell lysates.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

PROTOCOLS

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