SANTA CRUZ BIOTECHNOLOGY, INC.

FEN-1 (H-300): sc-13051

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

DNA replication, recombination and repair, all of which are necessary for genome stability, require the presence of exonucleases. In DNA replication, these enzymes are involved in the processing of Okazaki fragments, whereas in DNA repair, they function to excise damaged DNA fragments and correct recombinational mismatches. FEN-1 (for flap endonuclease) is an endonuclease that specifically cleaves the 5' flap structure of DNA in the process of DNA repair. FEN-1 is highly homologous to yeast Rad2. The C-terminal region of FEN-1 may bind to PCNA, thus allowing FEN-1 to function as an exonuclease in DNA replication.

REFERENCES

1. Goulian, M., et al. 1990. Discontinuous DNA synthesis by purified mammalian proteins. J. Biol. Chem. 265: 18461-18471.
2. Waga, S., et al. 1994. Reconstitution of complete SV40 DNA replication with purified replication factors. J. Biol. Chem. 269: 10923-10934.

CHROMOSOMAL LOCATION

Genetic locus: FEN1 (human) mapping to 11q12.2; Fen1 (mouse) mapping to 19 A.

SOURCE

FEN-1 (H-300) is a rabbit polyclonal antibody raised against amino acids 81-380 of FEN-1 of human origin.

PRODUCT

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

APPLICATIONS

FEN-1 (H-300) is recommended for detection of FEN-1 of mouse, rat and 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

FEN-1 (H-300) is also recommended for detection of FEN-1 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for FEN-1 siRNA (h): sc-37795, FEN-1 siRNA (m): sc-37796, FEN-1 shRNA Plasmid (h): sc-37795-SH, FEN-1 shRNA Plasmid (m): sc-37796-SH, FEN-1 shRNA (h) Lentiviral Particles: sc-37795-V and FEN-1 shRNA (m) Lentiviral Particles: sc-37796-V.

Molecular Weight of FEN-1: 42 kDa.

Positive Controls: HeLa nuclear extract: sc-2120, FEN-1 (m): 293T Lysate: sc-120234 or HeLa whole cell lysate: sc-2200.

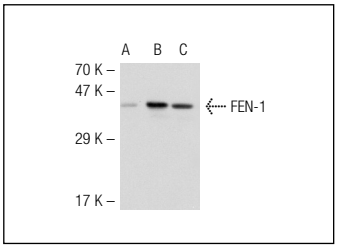
RESEARCH USE

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

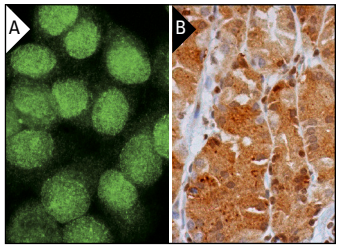
STORAGE

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

DATA



FEN-1 (H-300): sc-13051. Western blot analysis of FEN-1 expression in non-transfected 293T: sc-117752 (**A**), mouse FEN-1 transfected 293T: sc-120234 (**B**) and HeLa (**C**) whole cell lysates.



FEN-1 (H-300): sc-13051. Immunofluorescence staining of methanol-fixed HeLa cells showing nuclear localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human upper stomach tissue showing nuclear and cytoplasmic staining of glandular cells (**B**).

SELECT PRODUCT CITATIONS

1. Sato, M., et al. 2003. Increased expression and no mutation of the FLAP endonuclease (FEN1) gene in human lung cancer. Oncogene 22: 7243-7246.
2. Schultz-Norton, J.R., et al. 2007. The deoxyribonucleic acid repair protein FLAP endonuclease-1 modulates estrogen-responsive gene expression. Mol. Endocrinol. 21: 1569-1580.
3. Mocquet, V., et al. 2008. Sequential recruitment of the repair factors during NER: the role of XPG in initiating the resynthesis step. EMBO J. 27: 155-167.
4. Wei, W., et al. 2008. DNA polymerase β-catalyzed-PCNA independent long patch base excision repair synthesis: a mechanism for repair of oxidatively damaged DNA ends in post-mitotic brain. J. Neurochem. 107: 734-744.

PROTOCOLS

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