3050 Spruce Street
Saint Louis, Missouri 63103 USA
Telephone 800-325-5832 • (314) 771-5765
Fax (314) 286-7828
email: techserv@sial.com
sigma-aldrich.com

ProductInformation

Anti-FEN-1 (C-terminal)
produced in rabbit, affinity isolated antibody

Catalog Number **F1305**

Product Description

Anti FEN-1 (C-terminal) is developed in rabbit using as immunogen a synthetic peptide corresponding to amino acids 367-380 of human FEN-1, conjugated to KLH via an N-terminal added cystein residue. The corresponding sequence in rat and mouse differs by one and two amino acids, respectively. The antibody is affinity-purified using the immunizing peptide immobilized on agarose.

Anti FEN-1 (C-terminal) specifically recognizes FEN-1. Applications include immunoblotting (45 kDa), immunoprecipitation and immunofluorescence. Staining of the FEN-1 band in immunoblotting is specifically inhibited by the immunizing peptide.

The integrity of genetic information depends on the fidelity of DNA replication and on the efficiency of several different DNA repair processes. The primary structure of DNA is constantly subjected to alteration by cellular metabolites and exogenous DNA-damaging agents, which cause alterations such as base changes of deletions, fusions, translocations, or aneuploidy. The four types of pathways elicited by DNA damage are DNA repair, DNA damage checkpoints, transcriptional response, and apoptosis. Defects in these pathways may cause genomic instability.[1] DNA repair mechanisms include direct repair, base excision repair, nucleotide excision repair, double-strand break repair, and cross-linking repair.[1, 2]

FEN-1 (Flap endonuclease) is a member of the XPG/RAD2 structure specific endonuclease family, and is involved in nucleotide excision repair.[3] It removes 5' overhanging flaps in DNA repair, and processes the 5' ends of Okazaki fragments in lagging strand DNA synthesis. FEN-1 has been demonstrated to be involved in mouse gastrointestinal tract cancer, as well as overexpressed in human lung cancer.[4, 5] Proliferating cell nuclear antigen (PCNA) binds FEN-1 and stimulates its endonuclease activity.[6] Interestingly, FEN-1 acts primarily as an exonuclease in DNA replication in contrast to its endonuclease activity in DNA repair.[7] FEN-1 has been shown to interact with Werner and Bloom syndrome helicases; the RecQ helicase disorders are characterized by genomic instability.[8, 9]

Reagent

Supplied as a solution in 0.01 M phosphate buffered saline, pH 7.4, containing 15 mM sodium azide.

Antibody concentration: ~1 mg/mL

Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

Storage/Stability

For continuous use, store at 2-8 °C for up to one month. For extended storage, freeze in working aliquots. Repeated freezing and thawing, or storage in "frost-free" freezers, is not recommended. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use. Working dilutions should be discarded if not used within 12 hours.

Product Profile

Immunoblotting: a working concentration of 0.5-1 µg/mL is recommended using K562 cell lysates.

Immunoprecipitation: 2-4 µg of the antibody immunoprecipitates FEN-1 from HEK 293-T cell lysates.

Indirect immunofluorescence: a working concentration of 5-10 µg/mL is recommended using paraformaldehyde-fixed HEK 293-T cells.

Note: In order to obtain the best results using various techniques and preparations, we recommend determining the optimal working dilutions by titration.

References

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