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FEN-1 Antibody

Purified Mouse Monoclonal Antibody (Mab)
Catalog # AP52835

Product Information

Application	WB, ICC
Primary Accession	P39748
Reactivity	Human, Mouse
Host	Mouse
Clonality	Monoclonal
Isotype	IgG1
Calculated MW	42593

Additional Information

Gene ID	2237
Other Names	DNase IV;FEN-1;FEN1;FEN1_HUMAN;Flap endonuclease 1;Flap structure specific endonuclease 1;Flap structure-specific endonuclease 1;hFEN-1;hFEN1;Maturation factor 1;MF1;Rad2.
Dilution	WB~~1:1000 ICC~~1:400
Format	Liquid in PBS containing 50% glycerol, 0.5% BSA and 0.02% sodium azide, pH 7.3.
Storage	Store at 4°C short term. Aliquot and store at -20°C long term. Avoid freeze/thaw cycles.

Protein Information

Name	FEN1 {ECO:0000255|HAMAP-Rule:MF_03140}
Synonyms	RAD2
Function	Structure-specific nuclease with 5'-flap endonuclease and 5'- 3' exonuclease activities involved in DNA replication and repair. During DNA replication, cleaves the 5'-overhanging flap structure that is generated by displacement synthesis when DNA polymerase encounters the 5'-end of a downstream Okazaki fragment. It enters the flap from the 5'-end and then tracks to cleave the flap base, leaving a nick for ligation. Also involved in the long patch base excision repair (LP-BER) pathway, by cleaving within the apurinic/apyrimidinic (AP) site- terminated flap. Acts as a genome stabilization factor that prevents flaps from equilibrating into structures that lead to duplications and deletions. Also possesses 5'-3' exonuclease activity on nicked or gapped double-stranded DNA, and exhibits RNase H activity. Also involved in replication and repair of rDNA and in repairing mitochondrial DNA.

Cellular Location	[Isoform 1]: Nucleus, nucleolus. Nucleus, nucleoplasm. Note=Resides mostly in the nucleoli and relocalizes to the nucleoplasm upon DNA damage

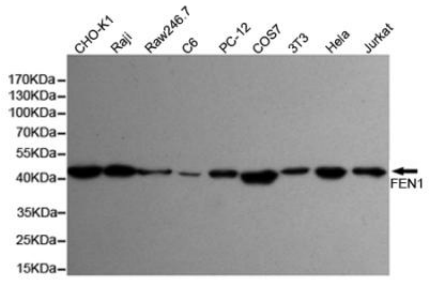
Background

Structure-specific nuclease with 5'-flap endonuclease and 5'-3' exonuclease activities involved in DNA replication and repair. During DNA replication, cleaves the 5'-overhanging flap structure that is generated by displacement synthesis when DNA polymerase encounters the 5'-end of a downstream Okazaki fragment. It enters the flap from the 5'-end and then tracks to cleave the flap base, leaving a nick for ligation. Also involved in the long patch base excision repair (LP-BER) pathway, by cleaving within the apurinic/apyrimidinic (AP) site-terminated flap. Acts as a genome stabilization factor that prevents flaps from equilibrating into structurs that lead to duplications and deletions. Also possesses 5'-3' exonuclease activity on nicked or gapped double- stranded DNA, and exhibits RNase H activity. Also involved in replication and repair of rDNA and in repairing mitochondrial DNA.

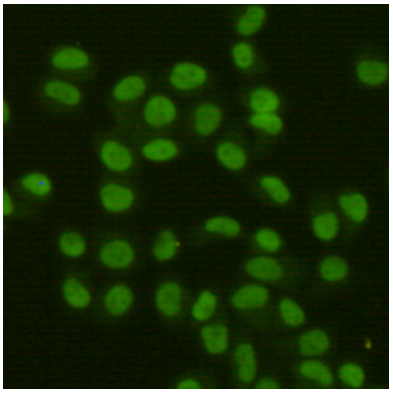
References

Murray J.M.,et al.Mol. Cell. Biol. 14:4878-4888(1994).
Hiraoka L.R.,et al.Genomics 25:220-225(1995).
Taylor T.D.,et al.Nature 440:497-500(2006).
Robins P.,et al.J. Biol. Chem. 269:28535-28538(1994).
Shen B.,et al.J. Biol. Chem. 271:9173-9176(1996).

Images



Western blot detection of FEN-1 in Hela,Jurkat,3T3,COS7,PC-12,C6,Raw264.7,Raji and CHO-K1 cell lysates using FEN-1 mouse mAb (1:1000 diluted).Predicted band size:45KDa.Observed band size:45KDa.



Immunocytochemistry staining of HeLa cells fixed with 4% Paraformaldehyde and using FEN-1 mouse mAb (dilution 1:400).