PRODUCT INFORMATION

FEN1 (human, recombinant)

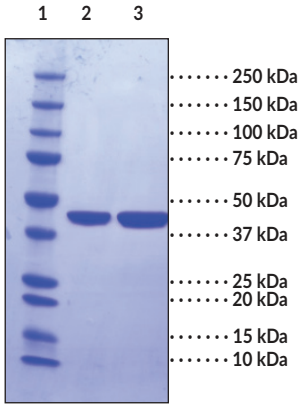
Item No. 14199

Overview and Properties

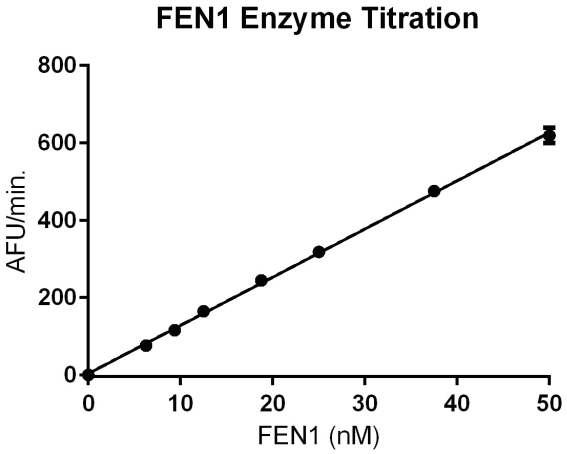
Synonyms:	Flap Endonuclease 1, hFEN1
Source:	Active recombinant C-terminal His-tagged protein expressed in *E. coli*
Amino Acids:	2-380 (full length)
Molecular Weight:	43.8 kDa
Storage:	-80°C (as supplied); avoid freeze/thaw cycles by aliquoting protein.
Stability:	≥2 years
Purity:	***batch specific*** (≥85% estimated by SDS-PAGE)
Supplied in:	50 mM Tris, pH 8.0, with 1 mM DTT and 10% glycerol
Protein Concentration:	***batch specific*** mg/ml
Activity:	***batch specific*** U/ml
Specific Activity:	***batch specific*** U/mg
Unit Definition:	One unit is defined as the amount of enzyme to produce 1 pmol of Flap per minute at 25°C in 50 mM Tris, pH 8.0, 10 mM $MgCl_2$, 1 mM DTT, and 0.01% Tween 20.

Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Images



Lane 1: MW Markers
Lane 2: FEN1 (2 µg)
Lane 3: FEN1 (4 µg)



WARNING
THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA
This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent *via* email to your institution.

WARRANTY AND LIMITATION OF REMEDY
Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

Copyright Cayman Chemical Company, 08/26/2024

CAYMAN CHEMICAL
1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA
PHONE: [800] 364-9897
[734] 971-3335
FAX: [734] 971-3640
CUSTSERV@CAYMANCHEM.COM
WWW.CAYMANCHEM.COM

PRODUCT INFORMATION

Description

Flap endonuclease 1 (FEN1), a RAD2 Class II nuclease, plays a crucial role in DNA repair, replication, and genomic stability.[1] FEN1 removes the 5'-unannealed flap during Okazaki fragment processing in lagging strand DNA synthesis.[2] Removal of the DNA flap is also critical in long-patch base excision repair and regulation of recombination.[3] In yeast, FEN1 mutants display sensitivity to UV irradiation, deficient chromosome segregation, and cell cycle arrest in S phase.[4] Furthermore, haploinsufficiency of FEN1 in mice leads to rapid tumor progression.[4] FEN1 is overexpressed in many forms of cancer, including lung, gastric, prostate, pancreatic, brain, and breast.[3]

References

1. Lee, B.-I. and Wilson, D.M.I. *J. Biol. Chem.* The RAD2 domain of human exonuclease 1 exhibits 5' to 3' exonuclease and flap structure-specific endonuclease activities. **274(53)**, 37763-37769 (1999).
2. Jagannathan, I., Pepenella, S., and Hayes, J.J. Activity of FEN1 endonuclease on nucleosome substrates is dependent upon DNA sequence but not flap orientation. *J. Biol. Chem.* **286(20)**, 17521-17529 (2011).
3. Dorjsuren, D., Kim, D., Maloney, D.J., *et al*. Complementary non-radioactive assays for investigation of human flap endonuclease 1 activity. *Nucleic Acids Res.* **39(2)**, (2011).
4. Sakurai, S., Kitano, K., Yamaguchi, H., *et al*. Structural basis for recruitment of human flap endonuclease 1 to PCNA. *EMBO J.* **24(4)**, 683-693 (2005).

CAYMAN CHEMICAL
1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA
PHONE: [800] 364-9897
[734] 971-3335
FAX: [734] 971-3640
CUSTSERV@CAYMANCHEM.COM
WWW.CAYMANCHEM.COM