# Product Datasheet

## FEN-1 Antibody (4E7) - Azide and BSA Free
## NB100-150

Unit Size: 100 ul

Store at 4C short term. Aliquot and store at -20C long term. Avoid freeze-thaw cycles.

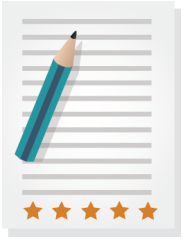
www.novusbio.com technical@novusbio.com

**Publications: 22**

Protocols, Publications, Related Products, Reviews, Research Tools and Images at:
www.novusbio.com/NB100-150

Updated 9/25/2025 v.20.1





# NB100-150

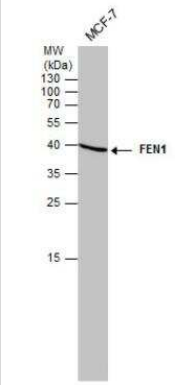
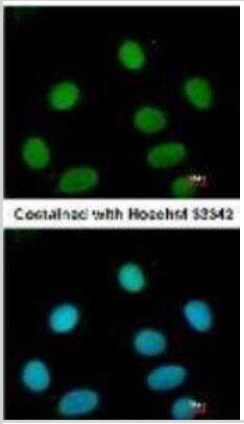
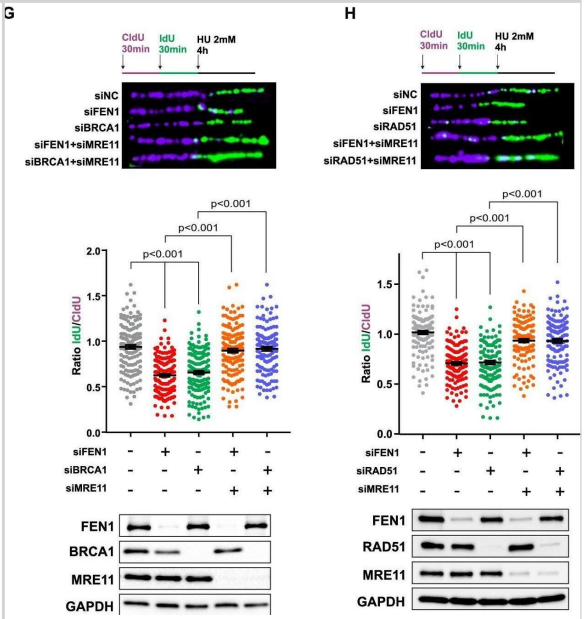
FEN-1 Antibody (4E7) - Azide and BSA Free

| Product Information | |
|---|---|
| **Unit Size** | 100 ul |
| **Concentration** | Concentrations vary lot to lot. See vial label for concentration. If unlisted please contact technical services. |
| **Storage** | Store at 4C short term. Aliquot and store at -20C long term. Avoid freeze-thaw cycles. |
| **Clonality** | Monoclonal |
| **Clone** | 4E7 |
| **Preservative** | No Preservative |
| **Isotype** | IgG1 |
| **Purity** | Protein G purified |
| **Buffer** | PBS |
| **Target Molecular Weight** | 42 kDa |

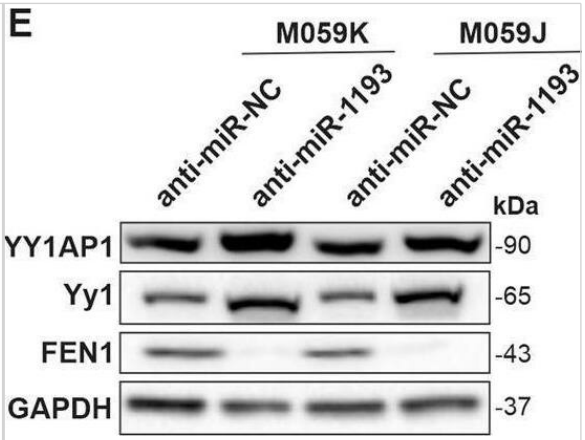
| Product Description | |
|---|---|
| **Description** | Novus Biologicals Mouse FEN-1 Antibody (4E7) - Azide and BSA Free (NB100-150) is a monoclonal antibody validated for use in WB, ICC/IF, Simple Western, IP and ChIP. Anti-FEN-1 Antibody: Cited in 22 publications. All Novus Biologicals antibodies are covered by our 100% guarantee. |
| **Host** | Mouse |
| **Gene ID** | 2237 |
| **Gene Symbol** | FEN1 |
| **Species** | Human, Mouse |
| **Reactivity Notes** | Please note that this antibody is reactive to Mouse and derived from the same host, Mouse. Mouse-On-Mouse blocking reagent may be needed for IHC and ICC experiments to reduce high background signal. You can find these reagents under catalog numbers PK-2200-NB and MP-2400-NB. Please contact Technical Support if you have any questions. |
| **Specificity/Sensitivity** | This is specific for FEN-1. |
| **Immunogen** | Recombinant human FEN-1 protein encoding amino acids 1-380 purified E. coli. |

| Product Application Details | |
|---|---|
| **Applications** | Western Blot, Simple Western, Immunocytochemistry/ Immunofluorescence, Immunoprecipitation, Chromatin Immunoprecipitation (ChIP) |
| **Recommended Dilutions** | Western Blot 1:500-1:3000, Simple Western, Immunocytochemistry/ Immunofluorescence, Immunoprecipitation, Chromatin Immunoprecipitation (ChIP) |
| **Application Notes** | Chip, ICC/IF,IP- Assay dependent<br>See Simple Western Antibody Database for Simple Western validation: separated by Size |

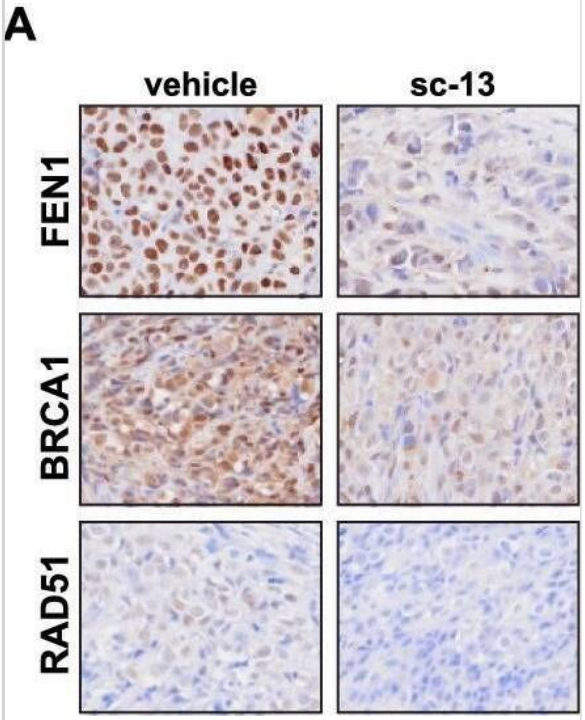
## Images

| | |
|---|---|
| Western Blot: FEN-1 Antibody (4E7) [NB100-150] - Whole cell extract (30 ug) was separated by 12% SDS-PAGE, and the membrane was blotted with FEN1 antibody diluted at 1:500. |  |
| Immunocytochemistry/Immunofluorescence: FEN-1 Antibody (4E7) [NB100-150] - Analysis of paraformaldehyde-fixed MCF7, using antibody at 1:200 dilution. |  |
| FEN1 Deficiency Resulted in Failure of RAD51-BRCA1 Assemble and Increased Fork Degradation. a Expression of FEN1, BRCA1 and RAD51 in glioma mice sample with or without FEN1 specific inhibitor sc-13 treatment. b Quantitation of FEN1, BRCA1 and RAD51 level. c, Correlation between FEN1 and BRCA1 protein expression in TCGA database. d Correlation between FEN1 and RAD51 protein expression in TCGA database. e M059K cells were transfected with control (siNC) or FEN1 siRNA (siFEN1) for 48 h followed with 2 mM HU treatment for 4 h. Immunofluorescence labeling was performed to detect foci of BRCA1 and RAD51. Quantitation of BRCA1 and RAD51 was presented from three independent replicates. Data are mean +/- s.d. f Detection of BRCA1-RAD51 interaction was carried out by PLA labeling in M059K cells transfected with siNC or siFEN1 followed with 2 mM HU for 4 h. Representative images are shown. Scale bars, 5 μm. The scatterplot displays quantification of the PLA signals per nucleus from at least 100 cells from three independent experiments. Data are mean +/- s.e.m. g-i Fork degradation was evaluated upon HU treatment in M059K cells transfected with the indicated siRNAs for 48 h. Representative images of CldU and IdU replication tracks and scatterplots of IdU/CldU-tract length ratios for individual replication forks are shown. Fibers evaluated from more than 150 counts from three independent experiments. Data are mean +/- s.e.m. A two-sided Mann–Whitney rank-sum test was used to determine if differences were significant. For, NS: not significant: P > 0.05 Image collected and cropped by CiteAb from the following open publication (https://pubmed.ncbi.nlm.nih.gov/35414100), licensed under a CC-BY license. Not internally tested by Novus Biologicals. |  |

miR-1193 directly targets YY1AP1 and exhibits synthetic lethality with DNA-PKcs through the YY1-FEN1 pathway.a Predicted miR-1193 binding sequence in the 3′-UTR of YY1AP1 (wild-type YY1AP1-3′-UTR) and in a mutant containing seven altered nucleotides indicated in red (YY1AP1-3′-UTR-mut). b Luciferase activity of the reporter constructs containing the 3′UTR of YY1AP1 with the wild-type or mutated miR-1193 binding site in 293 T cells after co-transfection with the control or miR-1193 expression constructs. The mRNA levels of miR-1193 (c) and YY1AP1 (d) were measured by RT-qPCR in M059K or M059J cells transfected with anti-miR-NC or anti-miR-1193. U6 RNA was used as the internal control. e Protein expression levels of YY1AP1, YY1, and FEN1 in M059K and M059J cells transfected with anti-miR-NC or anti-miR-1193. GAPDH was used as the loading control. f Colony formation assay of M059K and M059J cells transfected with shNC and shFEN1 and cultured for 4 days. The expression levels of FEN1 and GAPDH are presented. g The viability of transfected M059K and M059J cells was measured with a CCK8 kit across a time course. h Cell proliferation was measured by an EdU analysis of FACS. i Apoptosis was measured by a TUNEL assay and quantified. j, k The percentage of cells in S-phase and apoptosis under each condition was quantified. The images are representative of three independent biological replicates. The data are presented as the mean +/- SD values, and the error bars represent data from triplicate biological experiments. *P < 0.05, **P < 0.01, ***P < 0.005. NS not significant: p > 0.05. Image collected and cropped by CiteAb from the following open publication (https://pubmed.ncbi.nlm.nih.gov/32732911), licensed under a CC-BY license. Not internally tested by Novus Biologicals.




FEN1 Deficiency Resulted in Failure of RAD51-BRCA1 Assemble and Increased Fork Degradation. a Expression of FEN1, BRCA1 and RAD51 in glioma mice sample with or without FEN1 specific inhibitor sc-13 treatment. b Quantitation of FEN1, BRCA1 and RAD51 level. c, Correlation between FEN1 and BRCA1 protein expression in TCGA database. d Correlation between FEN1 and RAD51 protein expression in TCGA database. e M059K cells were transfected with control (siNC) or FEN1 siRNA (siFEN1) for 48 h followed with 2 mM HU treatment for 4 h. Immunofluorescence labeling was performed to detect foci of BRCA1 and RAD51. Quantitation of BRCA1 and RAD51 was presented from three independent replicates. Data are mean +/- s.d. f Detection of BRCA1-RAD51 interaction was carried out by PLA labeling in M059K cells transfected with siNC or siFEN1 followed with 2 mM HU for 4 h. Representative images are shown. Scale bars, 5 μm. The scatterplot displays quantification of the PLA signals per nucleus from at least 100 cells from three independent experiments. Data are mean +/- s.e.m. g-i Fork degradation was evaluated upon HU treatment in M059K cells transfected with the indicated siRNAs for 48 h. Representative images of CldU and IdU replication tracks and scatterplots of IdU/CldU-tract length ratios for individual replication forks are shown. Fibers evaluated from more than 150 counts from three independent experiments. Data are mean +/- s.e.m. A two-sided Mann–Whitney rank-sum test was used to determine if differences were significant. For, NS: not significant: P > 0.05 Image collected and cropped by CiteAb from the following open publication (https://pubmed.ncbi.nlm.nih.gov/35414100), licensed under a CC-BY license. Not internally tested by Novus Biologicals.



## Publications

Zhang J, Jing L, Tan S et al. Inhibition of miR-1193 leads to synthetic lethality in glioblastoma multiforme cells deficient of DNA-PKcs Cell Death Dis 2020-07-30 [PMID: 32732911]

M Kusi, M Zand, LL Lin, M Chen, A Lopez, CL Lin, CM Wang, ND Lucio, NB Kirma, J Ruan, TH Huang, K Mitsuya 2-Hydroxyglutarate destabilizes chromatin regulatory landscape and lineage fidelity to promote cellular heterogeneity Cell Reports, 2022-01-11;38(2):110220. 2022-01-11 [PMID: 35021081]

Yuan B, Kikuchi H, Li J et al. Cytotoxic Effects of Darinaparsin, a Novel Organic Arsenical, against Human Leukemia Cells International Journal of Molecular Sciences 2023-01-23 [PMID: 36768603]

Uttkarsh Ayyangar, Aneesh Karkhanis, Heather Tay, Aliya Farissa Binte Afandi, Oindrila Bhattacharjee, Lalitha KS, Sze Han Lee, James Chan, Srikala Raghavan Metabolic rewiring of macrophages by epidermal-derived lactate promotes sterile inflammation in the murine skin The EMBO Journal 2024-02-28 [PMID: 38418556]

Zhang J, Chen M, Pang Y et al. Flap endonuclease 1 and DNA-PKcs synergistically participate in stabilizing replication fork to encounter replication stress in glioma cells Journal of experimental & clinical cancer research : CR 2022-04-12 [PMID: 35414100] (WB, Human)

Tann AW, Boldogh I, Meiss G et al. Apoptosis induced by persistent single-strand breaks in mitochondrial genome: critical role of EXOG (5'-EXO/endonuclease) in their repair. J Biol Chem 2011-09-01 [PMID: 21768646] (Human)

Guo Zhigang, Zheng Li, Xu Hong et al. Methylation of FEN1 suppresses nearby phosphorylation and facilitates PCNA binding. Nat Chem Biol. 2010-10-01 [PMID: 20729856] (Human)

Asagoshi K, Liu Y, Masaoka A et al. DNA polymerase beta-dependent long patch base excision repair in living cells. DNA Repair (Amst) 2010-02-01 [PMID: 20006562] (Human)

Kong X, Mohanty SK, Stephens J et al. Comparative analysis of different laser systems to study cellular responses to DNA damage in mammalian cells. Nucleic Acids Res 2009-05-01 [PMID: 19357094] (Human)

Guo Z, Zheng L, Dai H et al. Human DNA polymerase beta polymorphism, Arg137Gln, impairs its polymerase activity and interaction with PCNA and the cellular base excision repair capacity. Nucleic Acids Res 2009-06-01 [PMID: 19336415] (Human)

Szczesny B, Tann AW, Longley MJ et al. Long patch base excision repair in mammalian mitochondrial genomes. J Biol Chem 2008-09-01 [PMID: 18635552] (Human)

Guo Z, Chavez V, Singh P et al. Comprehensive mapping of the C-terminus of flap endonuclease-1 reveals distinct interaction sites for five proteins that represent different DNA replication and repair pathways. J Mol Biol 2008-03-01 [PMID: 18291413] (Human)

More publications at http://www.novusbio.com/NB100-150

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## Products Related to NB100-150

| | |
|---|---|
| NBL1-10676 | FEN-1 Overexpression Lysate |
| NBP2-33376H | Blue Marker Antibody (6F4-F6) [HRP] |
| HAF007 | Goat anti-Mouse IgG Secondary Antibody [HRP] |
| NB7539 | Goat anti-Mouse IgG (H+L) Secondary Antibody [HRP] |
| NBP1-97005-0.5mg | Mouse IgG1 Isotype Control (MG1) |

### Limitations

This product is for research use only and is not approved for use in humans or in clinical diagnosis. Primary Antibodies are guaranteed for 1 year from date of receipt.

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