SANTA CRUZ BIOTECHNOLOGY, INC.

REV1 (A-11): sc-393022

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Originally identified in *Saccaromyces cerevisiae,* Rev1p exhibits deoxycytidyl transferase activity and is required for translesion replication and mutagenesis induced by a wide variety of DNA-damaging events. The human homolog REV1, like its yeast Rev1p counterpart, is also involved in translesion replication and spontaneous mutagenesis. The human REV1 gene maps between the chromosomal loci 2q11.1 and 2q11.2 and is ubiquitously expressed in various human tissues. Human REV1 protein is a dCMP transferase that specifically inserts a dCMP residue either opposite a DNA template guanine, a DNA template apurinic/apyridinic site or a uracil residue. REV1 transferase may play a critical role during mutagenic translesion DNA synthesis by bypassing a template adenosine/guanine site in human cells.

CHROMOSOMAL LOCATION

Genetic locus: REV1 (human) mapping to 2q11.2.

SOURCE

REV1 (A-11) is a mouse monoclonal antibody raised against amino acids 81-380 mapping near the N-terminus of REV1 of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin. Also available as TransCruz reagent for Gel Supershift and ChIP applications, sc-393022 X, 200 µg/0.1 ml.

REV1 (A-11) is available conjugated to agarose (sc-393022 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-393022 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-393022 PE), fluorescein (sc-393022 FITC), Alexa Fluor® 488 (sc-393022 AF488), Alexa Fluor® 546 (sc-393022 AF546), Alexa Fluor® 594 (sc-393022 AF594) or Alexa Fluor® 647 (sc-393022 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-393022 AF680) or Alexa Fluor® 790 (sc-393022 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

REV1 (A-11) is recommended for detection of REV1 of human origin by Western Blotting (starting dilution 1:100, 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for REV1 siRNA (h): sc-38232, REV1 shRNA Plasmid (h): sc-38232-SH and REV1 shRNA (h) Lentiviral Particles: sc-38232-V.

REV1 (A-11) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

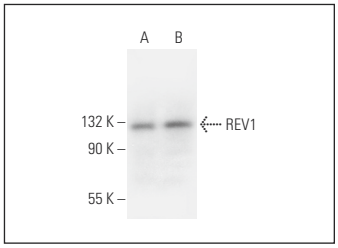
Molecular Weight of REV1: 138 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, ES-2 cell lysate: sc-24674 or HeLa nuclear extract: sc-2120.

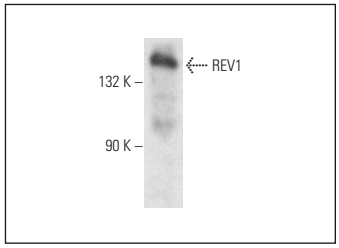
STORAGE

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

DATA



REV1 (A-11): sc-393022. Western blot analysis of REV1 expression in HeLa nuclear extract (**A**) and ES-2 whole cell lysate (**B**).



REV1 (A-11): sc-393022. Western blot analysis of REV1 expression in Jurkat whole cell lysate.

SELECT PRODUCT CITATIONS

1. Yang, D., et al. 2020. REV7 is required for processing AID initiated DNA lesions in activated B cells. Nat. Commun. 11: 2812.
2. Wang, C., et al. 2020. C17orf53 is identified as a novel gene involved in inter-strand crosslink repair. DNA Repair 95: 102946.
3. Ketkar, A., et al. 2021. Human REV1 relies on insert-2 to promote selective binding and accurate replication of stabilized G-quadruplex motifs. Nucleic Acids Res. 49: 2065-2084.
4. Hutcherson, R.J., et al. 2021. Age and Insulin-like growth factor-1 impact PCNA monoubiquitination in UVB-irradiated human skin. J. Biol. Chem. 296: 100570.
5. Genois, M.M., et al. 2021. CARM1 regulates replication fork speed and stress response by stimulating PARP1. Mol. Cell 81: 784-800.e8.
6. Chen, Y., et al. 2022. REV1 promotes lung tumorigenesis by activating the Rad18/SERTAD2 axis. Cell Death Dis. 13: 110.
7. Schubert, L., et al. 2022. SCAI promotes error-free repair of DNA inter-strand crosslinks via the Fanconi anemia pathway. EMBO Rep. 23: e53639.
8. Petljak, M., et al. 2022. Mechanisms of APOBEC3 mutagenesis in human cancer cells. Nature 607: 799-807.
9. Luong, T.T., et al. 2022. Hrq1/RECQL4 regulation is critical for preventing aberrant recombination during DNA intrastrand crosslink repair and is upregulated in breast cancer. PLoS Genet. 18: e1010122.
10. Chen, Y., et al. 2024. USP9X-mediated REV1 deubiquitination promotes lung cancer radioresistance via the action of REV1 as a Rad18 molecular scaffold for cystathionine γ-lyase. J. Biomed. Sci. 31: 55.

RESEARCH USE

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