SANTA CRUZ BIOTECHNOLOGY, INC.

SUV3 (E-1): sc-365750

The Power to Question

BACKGROUND

SUV3, also known as SUPV3L1 (suppressor of var1, 3-like 1), is a 786 amino acid protein that localizes to both the nucleus and the mitochondrial matrix and contains one helicase C-terminal domain, as well as one helicase ATP-binding domain. Expressed in a broad range of tissues, SUV3 interacts with HBXIP and functions as an ATPase DNA/RNA helicase that uses magnesium as a cofactor to catalyze the unwinding of DNA/RNA and RNA/RNA duplexes, thereby playing a role in DNA replication and transcriptional initiation. SUV3 exhibits optimal activity at a pH of 5 and, in addition to its helicase activity, is thought to protect cells from apoptosis and participate in maintaining mitochondrial homeostasis. The gene encoding SUV3 maps to human chromosome 10, which houses over 1,200 genes and comprises nearly 4.5% of the human genome.

REFERENCES

1. Dmochowska, A., et al. 1998. Assignment1 of SUPV3L1 to human chromosome band 10q22.1 by *in situ* hybridization. Cytogenet. Cell Genet. 83: 84-85.
2. Dmochowska, A., et al. 1999. A human putative Suv3-like RNA helicase is conserved between Rhodobacter and all eukaryotes. Acta Biochim. Pol. 46: 155-162.
3. Minczuk, M., et al. 2002. Localisation of the human hSuv3p helicase in the mitochondrial matrix and its preferential unwinding of dsDNA. Nucleic Acids Res. 30: 5074-5086.

CHROMOSOMAL LOCATION

Genetic locus: SUPV3L1 (human) mapping to 10q22.1; Supv3l1 (mouse) mapping to 10 B4.

SOURCE

SUV3 (E-1) is a mouse monoclonal antibody raised against amino acids 471-650 mapping within an internal region of SUV3 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2b} 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-365750 X, 200 µg/0.1 ml.

SUV3 (E-1) is available conjugated to agarose (sc-365750 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-365750 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-365750 PE), fluorescein (sc-365750 FITC), Alexa Fluor® 488 (sc-365750 AF488), Alexa Fluor® 546 (sc-365750 AF546), Alexa Fluor® 594 (sc-365750 AF594) or Alexa Fluor® 647 (sc-365750 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-365750 AF680) or Alexa Fluor® 790 (sc-365750 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

STORAGE

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

APPLICATIONS

SUV3 (E-1) is recommended for detection of SUV3 of mouse, rat and 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 SUV3 siRNA (h): sc-90749, SUV3 siRNA (m): sc-153943, SUV3 shRNA Plasmid (h): sc-90749-SH, SUV3 shRNA Plasmid (m): sc-153943-SH, SUV3 shRNA (h) Lentiviral Particles: sc-90749-V and SUV3 shRNA (m) Lentiviral Particles: sc-153943-V.

SUV3 (E-1) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

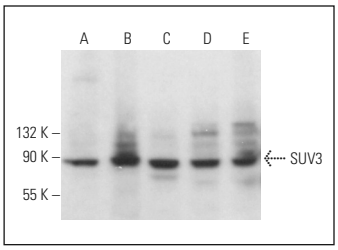
Molecular Weight of SUV3: 87 kDa.

Positive Controls: A-431 whole cell lysate: sc-2201, PC-3 cell lysate: sc-2220 or AN3 CA cell lysate: 24662.

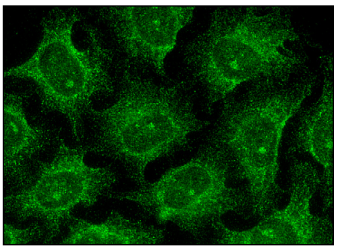
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



SUV3 (E-1): sc-365750. Western blot analysis of SUV3 expression in A-431 (**A**), PC-3 (**B**), AN3 CA (**C**), NIH/3T3 (**D**) and 3T3-L1 (**E**) whole cell lysates.



SUV3 (E-1): sc-365750. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization.

SELECT PRODUCT CITATIONS

1. Ohkubo, A., et al. 2021. The FASTK family proteins fine-tune mitochondrial RNA processing. PLoS Genet. 17: e1009873.

RESEARCH USE

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