SANTA CRUZ BIOTECHNOLOGY, INC.

Mms2 (h): 293T Lysate: sc-117249

BACKGROUND

Uev1A (also designated ubiquitin-conjugating enzyme E2 variant 1 (UEV1) and CROC1) and Mms2 (UEV2) proteins are similar in sequence and in predicted structure to the ubiquitin-conjugating enzymes or E2s, but lack a critical cysteine residue essential for the catalytic activity of E2 enzymes. Therefore, Uev1A does not have ubiquitin-conjugating activity *in vitro*. However, constitutive expression of exogenous Uev1A in colon carcinoma cells inhibits their capacity to differentiate upon confluence. Studies on recombinant Uev1A show that it localizes to the nucleus, excluding the nucleolar regions. Uev1A functions with TRAF6, a RING domain protein, to catalyze the synthesis of unique polyubiquitin chains linked through Lysine 63 of ubiquitin. UBC13 (ubiquitin-conjugating enzyme E2N (UBE2N)) may be involved in protein degradation mainly in the muscles and testis. In yeast, Mms2/UBC13 complex assembles novel polyubiquitin chains for signaling in DNA repair, and suggests that UEV proteins may act to increase diversity and selectivity in ubiquitin conjugation.

REFERENCES

1. Rothofsky, M.L. and Lin, S.L. 1997. CROC-1 encodes a protein which mediates transcriptional activation of the human FOS promoter. Gene 195: 141-149.
2. Sancho, E., Vila, M.R., Sanchez-Pulido, L., Lozano, J.J., Paciucci, R., Nadal, M., Fox, M., Harvey, C., Bercovich, B., Loukili, N., Ciechanover, A., Lin, S., Sans, F., Estivill, X., Valencia, A. and Thomson, T.M. 1998. Role of UEV-1, an inactive variant of the E2 ubiquitin-conjugating enzymes, in *in vitro* differentiation and cell cycle behavior of HT-29-M6 intestinal mucosecretory cells. Mol. Cell. Biol. 18: 576-589.
3. Hofmann, R.M. and Pickart, C.M. 1999. Noncanonical Mms2-encoded ubiquitin-conjugating enzyme functions in assembly of novel polyubiquitin chains for DNA repair. Cell 96: 645-653.
4. Deng, L., Wang, C., Spencer, E., Yang, L., Braun, A., You, J., Slaughter, C., Pickart, C. and Chen, Z.J. 2000. Activation of the IκB complex by TRAF6 requres a dimeric ubiquitin conjugatng enzyme complex and a unique polyubiquitin chain. Cell 103: 351-361.
5. LocusLink Report (LocusID: 602995). http://www.ncbi.nlm.nih.gov/Locuslink/

CHROMOSOMAL LOCATION

Genetic locus: UBE2V2 (human) mapping to 8q11.21.

PRODUCT

Mms2 (h): 293T Lysate represents a lysate of human Mms2 transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.

APPLICATIONS

Mms2 (h): 293T Lysate is suitable as a Western Blotting positive control for human reactive Mms2 antibodies. Recommended use: 10-20 µl per lane.

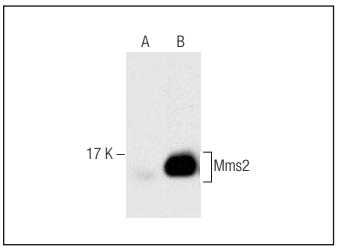
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

Uev1A/Mms2 (C-12): sc-377223 is recommended as a positive control antibody for Western Blot analysis of enhanced human Mms2 expression in Mms2 transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

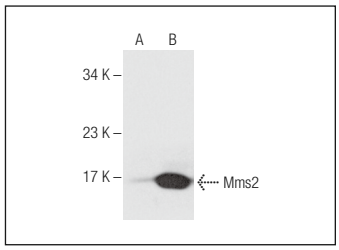
RECOMMENDED SUPPORT REAGENTS

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.

DATA



Uev1A/Mms2 (C-12): sc-377223. Western blot analysis of Mms2 expression in non-transfected: sc-117752 (**A**) and human Mms2 transfected: sc-117249 (**B**) 293T whole cell lysates.



Uev1A/Mms2 (E-6): sc-377254. Western blot analysis of Mms2 expression in non-transfected: sc-117752 (**A**) and human Mms2 transfected: sc-117249 (**B**) 293T whole cell lysates.

RESEARCH USE

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