

Uev1A/Mms2 (F-11): sc-377337

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. Rothfoks, 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 I κ B complex by TRAF6 requires a dimeric ubiquitin conjugating 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: UBE2V1 (human) mapping to 20q13.13, UBE2V2 (human) mapping to 8q11.21; Ube2v1 (mouse) mapping to 2 H3, Ube2v2 (mouse) mapping to 16 A2.

SOURCE

Uev1A/Mms2 (F-11) is a mouse monoclonal antibody raised against amino acids 1-145 representing full length Mms2 of human origin.

PRODUCT

Each vial contains 200 μ g IgG $_3$ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

Uev1A/Mms2 (F-11) is recommended for detection of Uev1A isoforms 1, 2, 3, 4 and 5 and Mms2 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g 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).

Uev1A/Mms2 (F-11) is also recommended for detection of Uev1A isoforms 1, 2, 3, 4 and 5 and Mms2 in additional species, including equine, canine, bovine and porcine.

Molecular Weight of Uev1A: 26 kDa.

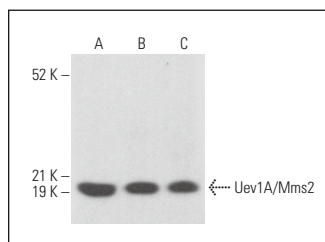
Molecular Weight of Mms2: 18 kDa.

Positive Controls: Mms2 (h): 293T Lysate: sc-117249, human liver extract: sc-363766 or Jurkat whole cell lysate: sc-2204.

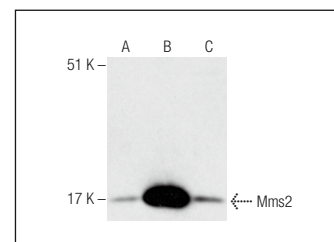
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz MarkerTM 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-IgG κ BP-FITC: sc-516140 or m-IgG κ 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



Uev1A/Mms2 (F-11): sc-377337. Western blot analysis of Uev1A/Mms2 expression in Jurkat (A), HEL 92.1.7 (B) and C6 (C) whole cell lysates.



Uev1A/Mms2 (F-11): sc-377337. Western blot analysis of Mms2 expression in non-transfected: sc-117752 (A) and human Mms2 transfected: sc-117249 (B) 293T whole cell lysates and human liver tissue extract (C).

STORAGE

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

RESEARCH USE

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

PROTOCOLS

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