



Mms2 (2H11): sc-58391

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

- 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.
- 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.
- 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.
- 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.
- LocusLink Report (LocusID: 602995). <http://www.ncbi.nlm.nih.gov/Locuslink/>

CHROMOSOMAL LOCATION

Genetic locus: UBE2V2 (human) mapping to 8q11.21; Ube2v2 (mouse) mapping to 16 A2.

SOURCE

Mms2 (2H11) is a mouse monoclonal antibody raised against full length Mms2 of human origin.

PRODUCT

Each vial contains 200 μ g IgG₁ in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

RESEARCH USE

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

APPLICATIONS

Mms2 (2H11) is recommended for detection of Mms2 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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 Mms2 siRNA (h): sc-72124, Mms2 siRNA (m): sc-72125, Mms2 shRNA Plasmid (h): sc-72124-SH, Mms2 shRNA Plasmid (m): sc-72125-SH, Mms2 shRNA (h) Lentiviral Particles: sc-72124-V and Mms2 shRNA (m) Lentiviral Particles: sc-72125-V.

Molecular Weight of Mms2: 18 kDa.

STORAGE

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

PROTOCOLS

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