

UBE2O (2C10): sc-293246

BACKGROUND

UBE2O (ubiquitin-conjugating enzyme E2O), also known as E2-230K, is a 1,292 amino acid member of the ubiquitin-conjugating enzyme family that is involved in protein modification. Expressed predominately in heart and skeletal muscle, UBE2O functions to catalyze the ATP-dependent covalent attachment of ubiquitin to select proteins, thereby targeting the ubiquitinated proteins for proteasomal degradation. The gene encoding UBE2O maps to human chromosome 17, which comprises over 2.5% of the human genome and encodes over 1,200 genes. Two key tumor suppressor genes are associated with chromosome 17, namely, p53 and BRCA1. Tumor suppressor p53 is necessary for maintenance of cellular genetic integrity by moderating cell fate through DNA repair versus cell death. Malfunction or loss of p53 expression is associated with malignant cell growth and Li-Fraumeni syndrome. Like p53, BRCA1 is directly involved in DNA repair, though specifically it is recognized as a genetic determinant of early onset breast cancer and predisposition to cancers of the ovary, colon, prostate gland and fallopian tubes.

REFERENCES

1. Nagase, T., Kikuno, R., Hattori, A., Kondo, Y., Okumura, K. and Ohara, O. 2000. Prediction of the coding sequences of unidentified human genes. XIX. The complete sequences of 100 new cDNA clones from brain which code for large proteins *in vitro*. DNA Res. 7: 347-355.
2. Yokota, T., Nagai, H., Harada, H., Mine, N., Terada, Y., Fujiwara, H., Yabe, A., Miyazaki, K. and Emi, M. 2001. Identification, tissue expression, and chromosomal position of a novel gene encoding human ubiquitin-conjugating enzyme E2-230k. Gene 267: 95-100.
3. Tomsig, J.L., Snyder, S.L. and Creutz, C.E. 2003. Identification of targets for calcium signaling through the copine family of proteins. Characterization of a coiled-coil copine-binding motif. J. Biol. Chem. 278: 10048-10054.
4. Nusbaum, R., Vogel, K.J. and Ready, K. 2006-2007. Susceptibility to breast cancer: hereditary syndromes and low penetrance genes. Breast Dis. 27: 21-50.
5. Tai, Y.C., Domchek, S., Parmigiani, G. and Chen, S. 2007. Breast cancer risk among male BRCA1 and BRCA2 mutation carriers. J. Natl. Cancer Inst. 99: 1811-1814.
6. Yan, J., Jiang, J., Lim, C.A., Wu, Q., Ng, H.H. and Chin, K.C. 2007. BLIMP1 regulates cell growth through repression of p53 transcription. Proc. Natl. Acad. Sci. USA 104: 1841-1846.
7. Waters, S., Marchbank, K., Solomon, E., Whitehouse, C. and Gautel, M. 2009. Interactions with LC3 and polyubiquitin chains link nbr1 to autophagic protein turnover. FEBS Lett. 583: 1846-1852.

CHROMOSOMAL LOCATION

Genetic locus: UBE2O (human) mapping to 17q25.1.

SOURCE

UBE2O (2C10) is a mouse monoclonal antibody raised against amino acids 361-470 of UBE2O of human origin.

PRODUCT

Each vial contains 100 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

UBE2O (2C10) is recommended for detection of UBE2O of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

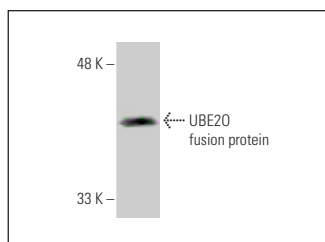
Suitable for use as control antibody for UBE2O siRNA (h): sc-94199, UBE2O shRNA Plasmid (h): sc-94199-SH and UBE2O shRNA (h) Lentiviral Particles: sc-94199-V.

Molecular Weight of UBE2O: 141 kDa.

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).

DATA



UBE2O (2C10): sc-293246. Western blot analysis of human recombinant UBE2O fusion protein.

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.