

UBL5 (429CT16.3.1): sc-517371

BACKGROUND

Ubiquitin is a 77 amino acid protein that targets proteins for degradation by the 26S Proteasome. Ubiquitin-like (UBL) proteins are not directly involved in protein degradation, but appear to have many mechanistic similarities with the ubiquitin pathway. UBL5 (ubiquitin-like protein 5), also known as Beacon, is a 73 amino acid cytoplasmic protein that contains a ubiquitin-like domain, though it is shorter than ubiquitin and other UBL proteins. UBL proteins are also similar to ubiquitin in that they are enzymatically conjugated via an isopeptide bond between the C-terminal glycine carboxylate group and a lysine residue on the target protein; however, UBL5 lacks glycine residues at its C-terminus. UBL5 is ubiquitously expressed, though is found in highest levels in iris, kidney, muscle, brain, heart, liver and lymphoblast tissues. In the brain, UBL5 is expressed in vasopressin- and oxytocin-positive neurons and seems to be osmoregulated.

REFERENCES

1. Friedman, J.S., Koop, B.F., Raymond, V. and Walter, M.A. 2001. Isolation of a ubiquitin-like (UBL5) gene from a screen identifying highly expressed and conserved iris genes. *Genomics* 71: 252-255.
2. Dittmar, G.A., Wilkinson, C.R., Jedrzejewski, P.T. and Finley, D. 2002. Role of a ubiquitin-like modification in polarized morphogenesis. *Science* 295: 2442-2446.
3. Brailoiu, G.C., Dun, S.L., Chi, M., Ohsawa, M., Chang, J.K., Yang, J. and Dun, N.J. 2003. Beacon/ubiquitin-like 5-immunoreactivity in the hypothalamus and pituitary of the mouse. *Brain Res.* 984: 215-223.
4. McNally, T., Huang, Q., Janis, R.S., Liu, Z., Olejniczak, E.T. and Reilly, R.M. 2003. Structural analysis of UBL5, a novel ubiquitin-like modifier. *Protein Sci.* 12: 1562-1566.
5. Jowett, J.B., Elliott, K.S., Curran, J.E., Hunt, N., Walder, K.R., Collier, G.R., Zimmet, P.Z. and Blangero, J. 2004. Genetic variation in BEACON influences quantitative variation in metabolic syndrome-related phenotypes. *Diabetes* 53: 2467-2472.
6. Online Mendelian Inheritance in Man, OMIM™. 2004. Johns Hopkins University, Baltimore, MD. MIM Number: 606849. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
7. Hatanaka, K., Ikegami, K., Takagi, H. and Setou, M. 2006. Hypo-osmotic shock induces nuclear export and proteasome-dependent decrease of UBL5. *Biochem. Biophys. Res. Commun.* 350: 610-615.
8. Bozaoglu, K., Curran, J.E., Elliott, K.S., Walder, K.R., Dyer, T.D., Rainwater, D.L., VandeBerg, J.L., Comuzzie, A.G., Collier, G.R., Zimmet, P., MacCluer, J.W., Jowett, J.B. and Blangero, J. 2006. Association of genetic variation within UBL5 with phenotypes of metabolic syndrome. *Hum. Biol.* 78: 147-159.
9. Sentinelli, F., Romeo, S., Cambuli, V.M., Cossu, E., Cavallo, M.G., Zavarella, S., Spoleitini, M., Buzzetti, R. and Baroni, M.G. 2008. Identification of sequence variants in the UBL5 (ubiquitin-like 5 or BEACON) gene in obese children by PCR-SSCP: no evidence for association with obesity. *J. Pediatr. Endocrinol. Metab.* 21: 1139-1145.

CHROMOSOMAL LOCATION

Genetic locus: UBL5 (human) mapping to 19p13.2; Ubl5 (mouse) mapping to 9 A3.

SOURCE

UBL5 (429CT16.3.1) is a mouse monoclonal antibody raised against purified His-tagged UBL5 protein fragment of human origin.

PRODUCT

Each vial contains 100 µg IgG₁ in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

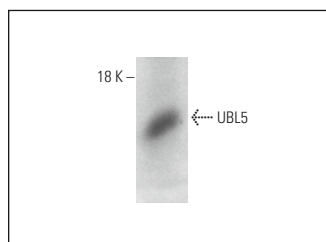
UBL5 (429CT16.3.1) is recommended for detection of UBL5 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)].

Suitable for use as control antibody for UBL5 siRNA (h): sc-97774, UBL5 siRNA (m): sc-154866, UBL5 shRNA Plasmid (h): sc-97774-SH, UBL5 shRNA Plasmid (m): sc-154866-SH, UBL5 shRNA (h) Lentiviral Particles: sc-97774-V and UBL5 shRNA (m) Lentiviral Particles: sc-154866-V.

Molecular Weight of UBL5: 9 kDa.

Positive Controls: mouse heart extract: sc-2254.

DATA



UBL5 (429CT16.3.1): sc-517371. Western blot analysis of UBL5 expression in mouse heart tissue extract.

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.