SANTA CRUZ BIOTECHNOLOGY, INC.

A1Up (H-2): sc-515250

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The Power to Question

BACKGROUND

A1Up (Ataxin-1 ubiquitin-like-interacting protein), also known as UBQLN4 (ubiquilin 4), C1orf6 or UBIN, is a 601 amino acid protein that localizes to both the cytoplasm and the nucleus and is thought to associate with the endoplasmic reticulum (ER). Expressed at high levels in kidney, pancreas, heart, brain and skeletal muscle and at lower levels in liver, lung and placenta, A1Up functions as a homodimer that binds to signal sequences on proteins that are targeted to the ER. Additionally, A1Up is thought to link Ataxin-1 with ubiquitin/proteasome pathways, possibly assisting in the Ataxin-1-associated formation of multimeric protein complexes within the nucleus. A1Up contains one ubiquitin-like domain and one UBA domain and may be phosphorylated in response to DNA damage.

REFERENCES

1. Fogli, A., et al. 1999. Identification of two paralogous regions mapping to the short and long arms of human chromosome 2 comprising LIS1 pseudogenes. Cytogenet. Cell Genet. 86: 225-232.
2. Davidson, J.D., et al. 2000. Identification and characterization of an ataxin-1-interacting protein: A1Up, a ubiquitin-like nuclear protein. Hum. Mol. Genet. 9: 2305-2312.
3. Matsuda, M., et al. 2001. Molecular cloning of a novel ubiquitin-like protein, UBIN, that binds to ER targeting signal sequences. Biochem. Biophys. Res. Commun. 280: 535-540.
4. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 605440. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
5. Riley, B.E., et al. 2004. The effects of the polyglutamine repeat protein ataxin-1 on the UbL-UBA protein A1Up. J. Biol. Chem. 279: 42290-42301.
6. Matsuoka, S., et al. 2007. ATM and ATR substrate analysis reveals extensive protein networks responsive to DNA damage. Science 316: 1160-1166.
7. Li, X., et al. 2008. A novel connexin43-interacting protein, CIP75, which belongs to the UbL-UBA protein family, regulates the turnover of connexin43. J. Biol. Chem. 283: 5748-5759.

CHROMOSOMAL LOCATION

Genetic locus: UBQLN4 (human) mapping to 1q22; Ubqln4 (mouse) mapping to 3 F1.

SOURCE

A1Up (H-2) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 100-116 near the N-terminus of A1Up of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-515250 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

A1Up (H-2) is recommended for detection of A1Up of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg 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).

Suitable for use as control antibody for A1Up siRNA (h): sc-78764, A1Up siRNA (m): sc-140614, A1Up shRNA Plasmid (h): sc-78764-SH, A1Up shRNA Plasmid (m): sc-140614-SH, A1Up shRNA (h) Lentiviral Particles: sc-78764-V and A1Up shRNA (m) Lentiviral Particles: sc-140614-V.

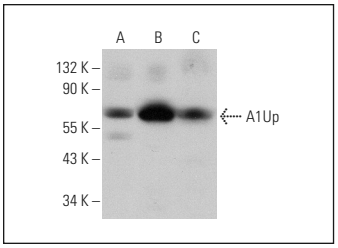
Molecular Weight of A1Up: 64-75 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, SH-SY5Y nuclear extract: sc-364820 or A1Up (h2): 293T Lysate: sc-117281.

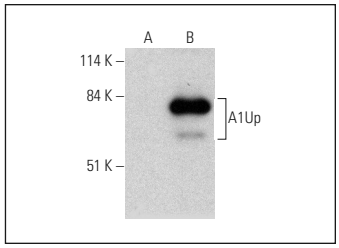
RECOMMENDED SUPPORT REAGENTS

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, TBS Blotto A Blocking Reagent: sc-2333 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-IgGκ BP-FITC: sc-516140 or m-IgGκ 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



A1Up (H-2): sc-515250. Western blot analysis of A1Up expression in HeLa whole cell lysate (**A**) and SH-SY5Y (**B**) and K-562 (**C**) nuclear extracts.



A1Up (H-2): sc-515250. Western blot analysis of A1Up expression in non-transfected: sc-117752 (**A**) and human A1Up transfected: sc-117281 (**B**) 293T whole cell lysates.

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.