SANTA CRUZ BIOTECHNOLOGY, INC.

A1Up (A333): sc-136145

SANTA CRUZ BIOTECHNOLOGY

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.

CHROMOSOMAL LOCATION

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

SOURCE

A1Up (A333) is a mouse monoclonal antibody raised against a recombinant protein corresponding to the UBA domain of A1Up of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

A1Up (A333) is available conjugated to agarose (sc-136145 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-136145 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-136145 PE), fluorescein (sc-136145 FITC), Alexa Fluor® 488 (sc-136145 AF488), Alexa Fluor® 546 (sc-136145 AF546), Alexa Fluor® 594 (sc-136145 AF594) or Alexa Fluor® 647 (sc-136145 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-136145 AF680) or Alexa Fluor® 790 (sc-136145 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

STORAGE

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

APPLICATIONS

A1Up (A333) is recommended for detection of A1Up (UBA domain) of mouse, rat and 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 immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

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.

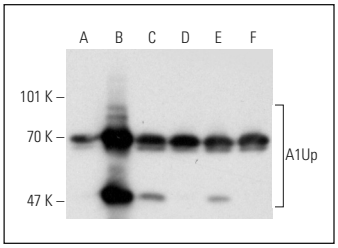
Molecular Weight of A1Up: 64-75 kDa.

Positive Controls: A1Up (h2): 293T Lysate: sc-117281, HeLa whole cell lysate: sc-2200 or TE671 cell lysate: sc-2416.

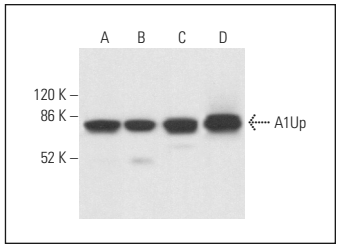
RECOMMENDED SUPPORT REAGENTS

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). 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 (A333): sc-136145. Western blot analysis of A1Up expression in non-transfected 293T: sc-117752 (**A**), human A1Up transfected 293T: sc-117281 (**B**), HeLa (**C**), K-562 (**D**), TE671 (**E**) and IMR-32 (**F**) whole cell lysates.



A1Up (A333): sc-136145. Western blot analysis of A1Up expression in SH-SY5Y (**A**), EOC 20 (**B**) and C6 (**C**) whole cell lysates and mouse brain tissue extract (**D**).

SELECT PRODUCT CITATIONS

1. Huang, S., et al. 2019. The UbL-UBA Ubiquilin4 protein functions as a tumor suppressor in gastric cancer by p53-dependent and p53-independent regulation of p21. Cell Death Differ. 26: 516-530.
2. Jachimowicz, R.D., et al. 2019. UBQLN4 represses homologous recombination and is overexpressed in aggressive tumors. Cell 176: 505-519.e22.
3. Jara, O., et al. 2020. p62/sequestosome 1 levels increase and phosphorylation is altered in Cx50D47A lenses, but deletion of p62/sequestosome 1 does not improve transparency. Mol. Vis. 26: 204-215.
4. Gerson, J.E., et al. 2021. Shared and divergent phase separation and aggregation properties of brain-expressed ubiquilins. Sci. Rep. 11: 287.
5. Murakami, T., et al. 2021. Regulation of MRE11A by UBQLN4 leads to cisplatin-resistance in patients with esophageal squamous cell carcinoma. Mol. Oncol. 15: 1069-1087.
6. Tang, X., et al. 2021. UBQLN4 is activated by C/EBPβ and exerts oncogenic effects on colorectal cancer via the Wnt/β-catenin signaling pathway. Cell Death Discov. 7: 398.
7. Mohan, H.M., et al. 2022. RTL8 promotes nuclear localization of UBQLN2 to subnuclear compartments associated with protein quality control. Cell. Mol. Life Sci. 79: 176.

RESEARCH USE

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