SANTA CRUZ BIOTECHNOLOGY, INC.

UBA2 (28): sc-136359

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The small ubiquitin-related modifier protein SUMO-1 belongs to the ubiquitin-like protein family, which are synthesized as precursor proteins that undergo processing before conjugation to target proteins. However, SUMO and ubiquitin differ with respect to targeting. Ubiquitination predominantly targets proteins for degradation, whereas sumoylation targets proteins to a variety of cellular processes, including nuclear transport, transcriptional regulation, apoptosis and protein stability. SUMO-1 utilizes homologues of the E1 and E2 enzymes for conjugation to proteins, which include IκBα, MDM2, p53, PML and Ran GAP1. AOS1 is homologous to the N-terminal half of E1 and UBA2 is homologous to the C-terminal half of E1. These proteins form a heterodimer that activates SUMO-1.

REFERENCES

1. Duprez, E., et al. 1999. SUMO-1 modification of the acute promyelocytic leukaemia protein PML: implications for nuclear localisation. J. Cell Sci. 112: 381-393.
2. Gong, L., et al. 1999. Molecular cloning and character the sentrin-activating enzyme complex. FEBS Lett. 448: 185-189.
3. Okuma, T., et al. 1999. *In vitro* SUMO-1 modification requires two enzymatic steps, E1 and E2. Biochem. Biophys. Res. Commun. 254: 693-698.
4. Schwienhorst, I., et al. 2000. SUMO conjugation and deconjugation. Mol. Gen. Genet. 263: 771-786.
5. Saitoh, H., et al. 2000. Functional heterogeneity of small ubiquitin-related protein modifiers SUMO-1 versus SUMO-2/3. J. Biol. Chem. 275: 6252-6258.
6. Tatham, M.H., et al. 2001. Polymeric chains of SUMO-2 and SUMO-3 are conjugated to protein substrates by SAE1/SAE2 and Ubc9. J. Biol. Chem. 276: 35368-35374.

CHROMOSOMAL LOCATION

Genetic locus: UBA2 (human) mapping to 19q13.11; Uba2 (mouse) mapping to 7 B1.

SOURCE

UBA2 (28) is a mouse monoclonal antibody raised against amino acids 258-375 of UBA2 of human origin.

PRODUCT

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

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.

APPLICATIONS

UBA2 (28) is recommended for detection of UBA2 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 UBA2 siRNA (h): sc-61740, UBA2 siRNA (m): sc-61741, UBA2 shRNA Plasmid (h): sc-61740-SH, UBA2 shRNA Plasmid (m): sc-61741-SH, UBA2 shRNA (h) Lentiviral Particles: sc-61740-V and UBA2 shRNA (m) Lentiviral Particles: sc-61741-V.

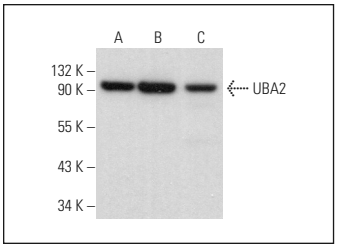
Molecular Weight of UBA2: 90 kDa.

Positive Controls: K-562 whole cell lysate: sc-2203, HL-60 whole cell lysate: sc-2209 or HeLa whole cell lysate: sc-2200.

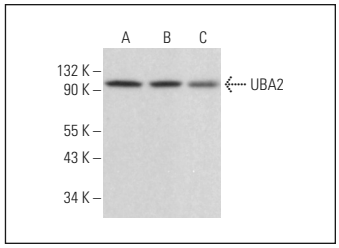
RECOMMENDED SUPPORT REAGENTS

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



UBA2 (28): sc-136359. Western blot analysis of UBA2 expression in HeLa (**A**), K-562 (**B**) and HL-60 (**C**) whole cell lysates.



UBA2 (28): sc-136359. Western blot analysis of UBA2 expression in K-562 (**A**), HEL 92.1.7 (**B**) and Y79 (**C**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Qin, Y., et al. 2014. SUMOylation alterations are associated with multidrug resistance in hepatocellular carcinoma. Mol. Med. Rep. 9: 877-881.
2. Jiang, B., et al. 2019. Identifying UBA2 as a proliferation and cell cycle regulator in lung cancer A549 cells. J. Cell. Biochem. E-published.

RESEARCH USE

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