SANTA CRUZ BIOTECHNOLOGY, INC.

AMBRA1 (G-6): sc-398204

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

WD-repeats are motifs that are found in a variety of proteins and are characterized by a conserved core of 40-60 amino acids that commonly form a tertiary propeller structure. While proteins that contain WD-repeats participate in a wide range of cellular functions, they are generally involved in regulatory mechanisms concerning chromatin assembly, cell cycle control, signal transduction, RNA processing, apoptosis and vesicular trafficking. AMBRA1 (activating molecule in BECN1-regulated autophagy protein 1), also known as WDR94 or KIAA1736, is a 1,298 amino acid protein that contains three WD repeats. Localized to cytoplasmic vesicles, AMBRA1 functions to control protein turnover, cell proliferation and cell survival during neuronal development, thereby playing an important role in autophagy and the development of the nervous system. Multiple isoforms of AMBRA1 exist due to alternative spicing events.

CHROMOSOMAL LOCATION

Genetic locus: AMBRA1 (human) mapping to 11p11.2.

SOURCE

AMBRA1 (G-6) is a mouse monoclonal antibody raised against amino acids 999-1298 mapping at the C-terminus of AMBRA1 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.

AMBRA1 (G-6) is available conjugated to agarose (sc-398204 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-398204 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-398204 PE), fluorescein (sc-398204 FITC), Alexa Fluor® 488 (sc-398204 AF488), Alexa Fluor® 546 (sc-398204 AF546), Alexa Fluor® 594 (sc-398204 AF594) or Alexa Fluor® 647 (sc-398204 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-398204 AF680) or Alexa Fluor® 790 (sc-398204 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

AMBRA1 (G-6) is recommended for detection of AMBRA1 of 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 AMBRA1 siRNA (h): sc-96257, AMBRA1 shRNA Plasmid (h): sc-96257-SH and AMBRA1 shRNA (h) Lentiviral Particles: sc-96257-V.

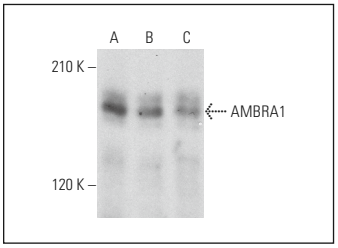
Molecular Weight of AMBRA1: 130 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, IMR-32 cell lysate: sc-2409 or MCF7 whole cell lysate: sc-2206.

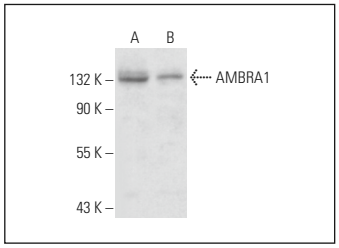
STORAGE

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

DATA



AMBRA1 (G-6): sc-398204. Western blot analysis of AMBRA1 expression in HeLa (**A**), MCF7 (**B**) and IMR-32 (**C**) whole cell lysates.



AMBRA1 (G-6): sc-398204. Western blot analysis of AMBRA1 expression in HeLa (**A**) and K-562 (**B**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Garofalo, T., et al. 2016. Evidence for the involvement of lipid rafts localized at the ER-mitochondria associated membranes in autophagosome formation. Autophagy 12: 917-935.
2. Capizzi, M., et al. 2017. MIR7-3HG, a Myc-dependent modulator of cell proliferation, inhibits autophagy by a regulatory loop involving AMBRA1. Autophagy 13: 554-566.
3. D'Acunzo, P., et al. 2019. Reversible induction of mitophagy by an optogenetic bimodular system. Nat. Commun. 10: 1533.
4. Manganelli, V., et al. 2021. The role of cardiolipin as a scaffold mitochondrial phospholipid in autophagosome formation: *in vitro* evidence. Biomolecules 11: 222.
5. Di Leo, L., et al. 2021. Loss of AMBRA1 promotes melanoma growth and invasion. Nat. Commun. 12: 2550.
6. Simoneschi, D., et al. 2021. $CRL4^{AMBRA1}$ is a master regulator of D-type cyclins. Nature 592: 789-793.
7. Nazio, F., et al. 2021. Targeting cancer stem cells in medulloblastoma by inhibiting AMBRA1 dual function in autophagy and STAT3 signalling. Acta Neuropathol. 142: 537-564.
8. Vianello, C., et al. 2022. Cisplatin resistance can be curtailed by blunting Bnip3-mediated mitochondrial autophagy. Cell Death Dis. 13: 398.
9. Qin, Y.C., et al. 2022. L-glutamate requires β-catenin signalling through Frizzled7 to stimulate porcine intestinal stem cell expansion. Cell. Mol. Life Sci. 79: 523.
10. Tiberti, M., et al. 2022. The cancermuts software package for the prioritization of missense cancer variants: a case study of AMBRA1 in melanoma. Cell Death Dis. 13: 872.

RESEARCH USE

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