SANTA CRUZ BIOTECHNOLOGY, INC.

E6-AP (C-18): sc-8927

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The Power to Question

BACKGROUND

E6-associating protein (E6-AP), also designated ubiquitin protein ligase E3A (UBE3A), is a component of the ubiquitin-mediated proteolytic pathway that selectively targets proteins for degradation by the 26S proteasome. Ubiquitin (Ub) is directly conjugated to protein substrates by the transfer of Ub from an E2 ubiquitin conjugating enzyme to the target protein. This conjugation is facilitated by the enzymatic activity of E3 ubiquitin ligase family members such as E6-AP. Several substrates of E6-AP have been identified and include the tumor suppressor protein p53 and the mammalian homolog of Rad23, HHR23A. Previous studies have indicated that E6-AP associates with the human papillomavirus E6 oncogene, which forms a complex with p53 and thereby potentiates E6-AP mediated ubiquitination of p53. Genetic mutations that impair E6-AP activity result in the accumulation of p53 in the cytoplasm, and in many instances, these mutations are associated with the development of the rare neurodevelopmental disorder Angelman syndrome (AS), which is characterized by severe motor dysfunction and mental retardation.

REFERENCES

1. Jentsch, S. 1992. The ubiquitin-conjugation system. Annu. Rev. Genet. 26: 179-207.
2. Huibregtse, J.M., et al. 1993. Cloning and expression of the cDNA for E6-AP, a protein that mediates the interaction of the human papillomavirus E6 oncoprotein with p53. Mol. Cell. Biol. 13: 775-784.
3. Haas, A.L., et al. 1997. Pathways of ubiquitin conjugation. FASEB J. 11: 1257-1268.
4. Yamamoto, Y., et al. 1997. The human E6-AP gene (UBE3A) encodes three potential protein isoforms generated by differential splicing. Genomics 41: 263-266.
5. Malzac, P., et al. 1998. Mutation analysis of UBE3A in Angelman syndrome patients. Am. J. Hum. Genet. 62: 1353-1360.
6. Kumar, S., et al. 1999. Identification of HHR23A as a substrate for E6-associated protein-mediated ubiquitination. J. Biol. Chem. 274: 18785-18792.

CHROMOSOMAL LOCATION

Genetic locus: UBE3A (human) mapping to 15q11.2; Ube3a (mouse) mapping to 7 C.

SOURCE

E6-AP (C-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of E6-AP of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-8927 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

E6-AP (C-18) is recommended for detection of E6-AP isoforms I, II and III of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

E6-AP (C-18) is also recommended for detection of E6-AP isoforms I, II and III in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for E6-AP siRNA (h): sc-43742, E6-AP siRNA (m): sc-40682, E6-AP shRNA Plasmid (h): sc-43742-SH, E6-AP shRNA Plasmid (m): sc-40682-SH, E6-AP shRNA (h) Lentiviral Particles: sc-43742-V and E6-AP shRNA (m) Lentiviral Particles: sc-40682-V.

Molecular Weight of E6-AP: 100 kDa.

Positive Controls: IMR-32 nuclear extract: sc-2148, mouse brain extract: sc-2253 or SK-N-SH cell lysate: sc-2410.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

SELECT PRODUCT CITATIONS

1. Perissi, V., et al. 2004. A corepressor/coactivator exchange complex required for transcriptional activation by nuclear receptors and other regulated transcription factors. Cell 116: 511-526.
2. Liu, X., et al. 2005. The E6-AP ubiquitin ligase is required for transactivation of the hTERT promoter by the human papillomavirus E6 oncoprotein. J. Biol. Chem. 280: 10807-10816.

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.