SANTA CRUZ BIOTECHNOLOGY, INC.

CDKN2AIP (18.7): sc-81841

BACKGROUND

Cell cycle progression is controlled in part by a family of cyclin proteins and cyclin dependent kinases (Cdks). CDKN2AIP (CDKN2A-interacting protein), also known as CARF, is a 580 amino acid protein that activates p53 via p14 ARF (alternate reading frame)-dependent and independent pathways. CDKN2AIP-dependent activation of p53, a protein that upregulates growth arrest and apoptosis-related genes in response to stress signals, leads to an enhancement of p53 function. Expression levels of CDKN2AIP and p53 show an inverse relationship that is caused by a negative-feedback control via a proteasome-mediated degradation pathway. CDKN2AIP is expressed ubiquitously across tissue samples and, along with p14 ARF, is localized to the perinucleolar region within the nucleus. Through direct interaction with MDM2, CDKN2AIP functions as a repressor of MDM2 transcription and undergoes degradation by the MDM2-dependent proteasome pathway. CDKN2AIP contains one DRBM (double-stranded RNA-binding) domain, suggesting a possible role in posttranscriptional gene regulation.

REFERENCES

1. Hasan, M.K., et al. 2002. CARF is a novel protein that cooperates with mouse p19ARF (human p14 ARF) in activating p53. J. Biol. Chem. 277: 37765-37770.
2. Hasan, M.K., et al. 2004. Alternative reading frame protein (ARF)-independent function of CARF (collaborator of ARF) involves its interactions with p53: evidence for a novel p53-activation pathway and its negative feedback control. Biochem. J. 380: 605-610.
3. Kaul, S.C., et al. 2006. CARF regulates p19ARF-p53-p21WAF1 senescence pathway by multiple checkpoints. Ann. N.Y. Acad. Sci. 1067: 217-219.
4. Kamrul, H.M., et al. 2007. CARF binds to three members (ARF, p53 and HDM2) of the p53 tumor-suppressor pathway. Ann. N.Y. Acad. Sci. 1100: 312-315.
5. Hasan, M.K., et al. 2008. CARF (collaborator of ARF) interacts with HDM2: Evidence for a novel regulatory feedback regulation of CARF-p53-HDM2-p21WAF1 pathway. Int. J. Oncol. 32: 663-671.

CHROMOSOMAL LOCATION

Genetic locus: CDKN2AIP (human) mapping to 4q35.1.

SOURCE

CDKN2AIP (18.7) is a mouse monoclonal antibody raised against recombinant CDKN2AIP of human origin.

PRODUCT

Each vial contains 100 µg IgG_1 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.

APPLICATIONS

CDKN2AIP (18.7) is recommended for detection of CDKN2AIP of 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)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (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 CDKN2AIP siRNA (h): sc-88879, CDKN2AIP shRNA Plasmid (h): sc-88879-SH and CDKN2AIP shRNA (h) Lentiviral Particles: sc-88879-V.

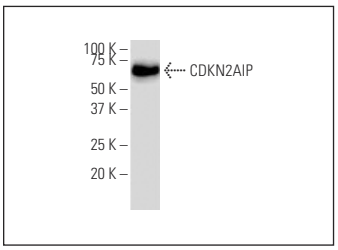
Molecular Weight of CDKN2AIP: 61 kDa.

Positive Controls: HeLa nuclear extract: sc-2120.

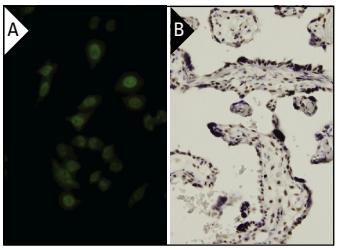
RECOMMENDED SUPPORT REAGENTS

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. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



CDKN2AIP (18.7): sc-81841. Western blot analysis of CDKN2AIP expression in HeLa nuclear extract.



CDKN2AIP (18.7): sc-81841. Immunofluorescence staining of paraformaldehyde-fixed HeLa cells showing nuclear localization (**A**). Immunoperoxidase staining of formalin-fixed, paraffin-embedded human placenta tissue showing nuclear localization (**B**).

SELECT PRODUCT CITATIONS

1. Lu, T., et al. 2019. Multi-omics profiling reveals key signaling pathways in ovarian cancer controlled by STAT3. Theranostics 9: 5478-5496.
2. Toptan, T., et al. 2020. Proteomic approach to discover human cancer viruses from formalin-fixed tissues. JCI Insight. E-published.

RESEARCH USE

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