SANTA CRUZ BIOTECHNOLOGY, INC.

p16 INK4A (2D9A12): sc-81157

BACKGROUND

The progression of cells through the cell cycle is regulated by a family of protein kinases known as cyclin-dependent kinases (Cdks). The sequential activation of individual members of this family and their consequent phosphorylation of critical substrates promotes orderly progression through the cell cycle. The cyclins function as differentially expressed positive regulators of Cdks. Negative regulators of the cycle include the p53-inducible protein p21 Waf1/Cip1 (also designated p21, WAF1 or Cip1), Kip1 p27 and p16 INK4A. The complexes formed by Cdk4 and the D-type cyclins have been strongly implicated in the control of cell proliferation during the G_1 phase. It has been shown that p16 INK4A binds to Cdk4 and inhibits the catalytic activity of the Cdk4/cyclin D complex. Moreover, the gene encoding p16 INK4A exhibits a high frequency of homozygous deletions and point mutations in established human tumor cell lines.

REFERENCES

1. Sherr, C.J. 1993. Mammalian G_1 cyclins. Cell 73: 1059-1065.
2. Harper, J.W., et al. 1993. The p21 Cdk-interacting protein Cip1 is a potent inhibitor of G_1 cyclin-dependent kinases. Cell 75: 805-816.
3. El-Deiry, W.S., et al. 1993. WAF1, a potential mediator of p53 tumor suppression. Cell 75: 817-825.

CHROMOSOMAL LOCATION

Genetic locus: CDKN2A (human) mapping to 9p21.3; Cdkn2a (mouse) mapping to 4 C4.

SOURCE

p16 INK4A (2D9A12) is a mouse monoclonal antibody raised against purified truncated recombinant p16 INK4A of human origin.

PRODUCT

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

APPLICATIONS

p16 INK4A (2D9A12) is recommended for detection of p16 INK4A 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)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for p16 INK4A siRNA (h): sc-36143, p16 INK4A siRNA (m): sc-36144, p16 INK4A shRNA Plasmid (h): sc-36143-SH, p16 INK4A shRNA Plasmid (m): sc-36144-SH, p16 INK4A shRNA (h) Lentiviral Particles: sc-36143-V and p16 INK4A shRNA (m) Lentiviral Particles: sc-36144-V.

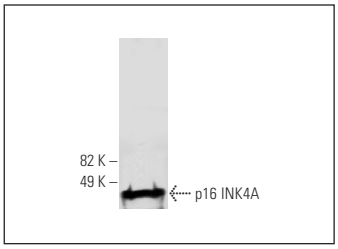
Molecular Weight of p16 INK4A: 16 kDa.

Positive Controls: 3T3-L1 cell lysate: sc-2243, MM-142 cell lysate: sc-2246 or WEHI-3 cell lysate: sc-3815.

STORAGE

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

DATA



p16 INK4A (2D9A12): sc-81157. Western blot analysis of mouse recombinant p16 INK4A.

SELECT PRODUCT CITATIONS

1. Chen, Y.W., et al. 2012. Analysis of p16 INK4A expression of oral squamous cell carcinomas in Taiwan: prognostic correlation without relevance to betel quid consumption. J. Surg. Oncol. 106: 149-154.
2. Kua, H.Y., et al. 2012. c-Abl promotes osteoblast expansion by differentially regulating canonical and non-canonical BMP pathways and p16 INK4A expression. Nat. Cell Biol. 14: 727-737.
3. Chen, Y.W., et al. 2013. Histone modification patterns correlate with patient outcome in oral squamous cell carcinoma. Cancer 119: 4259-4267.
4. Balan, R., et al. 2013. The immunohistochemical assessment of HPV related adenocarcinoma: pathologic and clinical prognostic significance. Curr. Pharm. Des. 19: 1430-1438.
5. Chen, S.C., et al. 2018. PD-L1 expression is associated with p16 INK4A expression in non-oropharyngeal head and neck squamous cell carcinoma. Oncol. Lett. 15: 2259-2265.
6. Gamboa, C.M., et al. 2021. Generation of glioblastoma patient-derived organoids and mouse brain orthotopic xenografts for drug screening. STAR Protoc. 2: 100345.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.