SANTA CRUZ BIOTECHNOLOGY, INC.

DD1-4 (B-12): sc-390560

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Chromosome 10 contains over 800 genes and 135 million nucleotides, making up nearly 4.5% of the human genome. PTEN is an important tumor suppressor gene located on chromosome 10 and, when defective, causes a genetic predisposition to cancer development known as Cowden syndrome. The chromosome 10 encoded gene ERCC6 is important for DNA repair and is linked to Cockayne syndrome which is characterized by extreme photosensitivity and premature aging. Tetrahydrobiopterin deficiency and a number of syndromes involving defective skull and facial bone fusion are also linked to chromosome 10. As with most trisomies, trisomy 10 is rare and is deleterious.

REFERENCES

1. Fryns, J.P., et al. 1991. Apparent late-onset Cockayne syndrome and interstitial deletion of the long arm of chromosome 10 (del(10)(q11.23q21.2)). Am. J. Med. Genet. 40: 343-344.
2. Thöny, B., et al. 1994. Chromosomal location of two human genes encoding tetrahydrobiopterin-metabolizing enzymes: 6-pyruvoyl-tetrahydropterin synthase maps to 11q22.3-q23.3, and pterin-4 a-carbinolamine dehydratase maps to 10q22. Genomics 19: 365-368.
3. Horibata, K., et al. 2004. Complete absence of Cockayne syndrome group B gene product gives rise to UV-sensitive syndrome but not Cockayne syndrome. Proc. Natl. Acad. Sci. USA 101: 15410-15415.
4. Teresi, R.E., et al. 2007. Cowden syndrome-affected patients with PTEN promoter mutations demonstrate abnormal protein translation. Am. J. Hum. Genet. 81: 756-767.
5. Cho, M.Y., et al. 2008. First report of ovarian dysgerminoma in Cowden syndrome with germline PTEN mutation and PTEN-related 10q loss of tumor heterozygosity. Am. J. Surg. Pathol. 32: 1258-1264.
6. Blumenthal, G.M. and Dennis, P.A. 2008. PTEN hamartoma tumor syndromes. Eur. J. Hum. Genet. 16: 1289-1300.
7. Utine, G.E., et al. 2008. Kabuki syndrome and trisomy 10p. Genet. Couns. 19: 291-300.
8. Yin, Y. and Shen, W.H. 2008. PTEN: a new guardian of the genome. Oncogene 27: 5443-5453.

CHROMOSOMAL LOCATION

Genetic locus: AKR1C1/AKR1C2/AKR1C3/AKR1C4 (human) mapping to 10p15.1; Akr1c21/Akr1c18/Akr1c6 (mouse) mapping to 13 A1.

SOURCE

DD1-4 (B-12) is a mouse monoclonal antibody raised against amino acids 1-78 mapping at the N-terminus of DD2 of human origin.

PRODUCT

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

APPLICATIONS

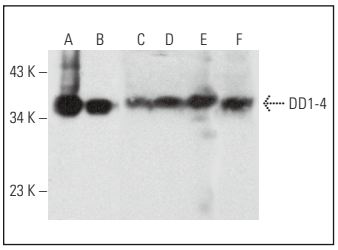
DD1-4 (B-12) is recommended for detection of DD1, DD2, DD3 and DD4 of human origin, and AKR1C21, AKR1C18 and AKR1C6 of mouse and rat origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Positive Controls: Neuro-2A whole cell lysate: sc-364185, A549 cell lysate: sc-2413 or Hep G2 cell lysate: sc-2227.

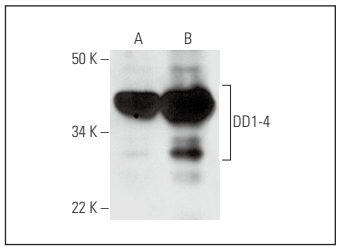
RECOMMENDED SUPPORT REAGENTS

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



DD1-4 (B-12): sc-390560. Western blot analysis of DD1-4 expression in MCF7 (**A**), NCI-H292 (**B**), c4 (**C**), Neuro-2A (**D**) and C6 (**E**) whole cell lysates and rat liver tissue extract (**F**).



DD1-4 (B-12): sc-390560. Western blot analysis of DD1-4 expression in Hep G2 (**A**) and A549 (**B**) whole cell lysates.

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.

PROTOCOLS

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