SANTA CRUZ BIOTECHNOLOGY, INC.

C12orf4 (E-12): sc-514328

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Encoding over 1,100 genes within 132 million bases, chromosome 12 makes up about 4.5% of the human genome. A number of skeletal deformities are linked to chromosome 12 including hypochondrogenesis, achondrogenesis and Kniest dysplasia. Noonan syndrome, which includes heart and facial developmental defects among the primary symptoms, is caused by a mutant form of PTPN11 gene product, SH-PTP2. Chromosome 12 is also home to a homeobox gene cluster which encodes crucial transcription factors for morphogenesis, and the natural killer complex gene cluster encoding C-type lectin proteins which mediate the NK cell response to MHC class I interaction. Trisomy 12p leads to facial development defects, seizure disorders and a host of other symptoms varying in severity depending on the extent of mosaicism, and is most severe in cases of complete trisomy.

REFERENCES

1. Allen, T.L., et al. 1996. Cytogenetic and molecular analysis in trisomy 12p. Am. J. Med. Genet. 63: 250-256.
2. Yang, W. and Cole, W.G. 1998. Low basal transcripts of the COL2A1 collagen gene from lymphoblasts show alternative splicing of exon 12 in the Kniest form of spondyloepiphyseal dysplasia. Hum. Mutat. 1: S1-S2.
3. Trowsdale, J., et al. 2001. The genomic context of natural killer receptor extended gene families. Immunol. Rev. 181: 20-38.
4. Zumkeller, W., et al. 2004. Genotype/phenotype analysis in a patient with pure and complete trisomy 12p. Am. J. Med. Genet. A 129A: 261-264.
5. Kelley, J., et al. 2005. Comparative genomics of natural killer cell receptor gene clusters. PLoS Genet. 1: e27.
6. Nishimura, G., et al. 2005. The phenotypic spectrum of COL2A1 mutations. Hum. Mutat. 26: 36-43.

CHROMOSOMAL LOCATION

Genetic locus: C12orf4 (human) mapping to 12p13.32; D6Wsu163e (mouse) mapping to 6 F3.

SOURCE

C12orf4 (E-12) is a mouse monoclonal antibody raised against amino acids 87-256 mapping within an internal region of C12orf4 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.

C12orf4 (E-12) is available conjugated to agarose (sc-514328 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-514328 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-514328 PE), fluorescein (sc-514328 FITC), Alexa Fluor® 488 (sc-514328 AF488), Alexa Fluor® 546 (sc-514328 AF546), Alexa Fluor® 594 (sc-514328 AF594) or Alexa Fluor® 647 (sc-514328 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-514328 AF680) or Alexa Fluor® 790 (sc-514328 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

C12orf4 (E-12) is recommended for detection of C12orf4 of human and mouse origin, and LOC297607 of 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).

Suitable for use as control antibody for C12orf4 siRNA (h): sc-95913, C12orf4 siRNA (m): sc-141821, C12orf4 shRNA Plasmid (h): sc-95913-SH, C12orf4 shRNA Plasmid (m): sc-141821-SH, C12orf4 shRNA (h) Lentiviral Particles: sc-95913-V and C12orf4 shRNA (m) Lentiviral Particles: sc-141821-V.

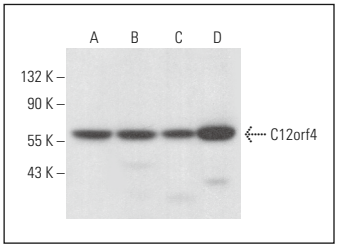
Molecular Weight of C12orf4: 64 kDa.

Positive Controls: Y79 cell lysate: sc-2240, C32 whole cell lysate: sc-2205 or SK-MEL-24 whole cell lysate: sc-364259.

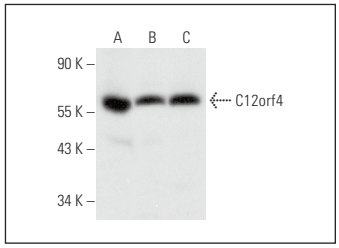
RECOMMENDED SUPPORT REAGENTS

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



C12orf4 (E-12): sc-514328. Western blot analysis of C12orf4 expression in Y79 (**A**), Hep G2 (**B**), MCF7 (**C**) and c4 (**D**) whole cell lysates.



C12orf4 (E-12): sc-514328. Western blot analysis of C12orf4 expression in Y79 (**A**), C32 (**B**) and SK-MEL-24 (**C**) 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.