SANTA CRUZ BIOTECHNOLOGY, INC.

BRUNOL4 (A-4): sc-514730

BACKGROUND

Members of the CELF (CUG-BP1- and ETR-3-like factor) family are RNA-binding proteins implicated in the regulation of pre-mRNA alternative splicing. The CELF family includes six members. CELF4, also designated BRUNOL4, mediates exon inclusion and/or exclusion in pre-mRNAs that are subject to tissue-specific and developmentally regulated alternative splicing. Specifically, BRUNOL4 activates exon 5 inclusion of cardiac isoforms of Troponin T-C during heart remodeling at the juvenile to adult transition, and promotes exclusion of both the smooth muscle (SM) and non-muscle (NM) exons in actinin pre-mRNAs. BRUNOL4 contains three RRM (RNA recognition motif) domains and binds to muscle-specific splicing enhancer (MSE) intronic sites flanking the alternative exon 5 of Troponin T-C pre-mRNA. BRUNOL4 is strongly expressed in cerebellum, hippocampus, amygdala, temporal and frontal cortex and frontal lobes. Disruption of the gene encoding BRUNOL4 results in idiopathic epilepsy, a common human disorder that leads to severe seizures.

REFERENCES

1. Ladd, A.N., et al. 2001. The CELF family of RNA binding proteins is implicated in cell-specific and developmentally regulated alternative splicing. Mol. Cell. Biol. 21: 1285-1296.
2. Meins, M., et al. 2002. Identification and characterization of murine Brunol4, a new member of the elav/bruno family. Cytogenet. Genome Res. 97: 254-260.
3. Gromak, N., et al. 2003. Antagonistic regulation of α-actinin alternative splicing by CELF proteins and polypyrimidine tract binding protein. RNA 9: 443-456.
4. Singh, G., et al. 2004. ETR-3 and CELF4 protein domains required for RNA binding and splicing activity *in vivo*. Nucleic Acids Res. 32: 1232-1241.
5. Ladd, A.N., et al. 2005. Cardiac tissue-specific repression of CELF activity disrupts alternative splicing and causes cardiomyopathy. Mol. Cell. Biol. 25: 6267-6278.
6. Han, J. and Cooper, T.A. 2005. Identification of CELF splicing activation and repression domains *in vivo*. Nucleic Acids Res. 33: 2769-2780.

CHROMOSOMAL LOCATION

Genetic locus: CELF4 (human) mapping to 18q12.2; Celf4 (mouse) mapping to 18 A2.

SOURCE

BRUNOL4 (A-4) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 37-52 near the N-terminus of BRUNOL4 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.

Blocking peptide available for competition studies, sc-514730 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

BRUNOL4 (A-4) is recommended for detection of BRUNOL4 of mouse, rat and human 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 BRUNOL4 siRNA (h): sc-72666, BRUNOL4 siRNA (m): sc-141756, BRUNOL4 shRNA Plasmid (h): sc-72666-SH, BRUNOL4 shRNA Plasmid (m): sc-141756-SH, BRUNOL4 shRNA (h) Lentiviral Particles: sc-72666-V and BRUNOL4 shRNA (m) Lentiviral Particles: sc-141756-V.

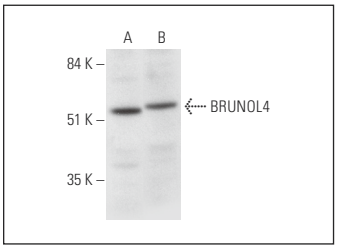
Molecular Weight of BRUNOL4: 52 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, human brain tissue extract or HCT-116 whole cell lysate: sc-364175.

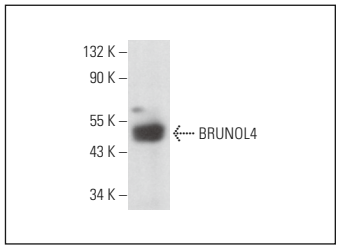
RECOMMENDED SUPPORT REAGENTS

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



BRUNOL4 (A-4): sc-514730. Western blot analysis of BRUNOL4 expression in HeLa (**A**) and HCT-116 (**B**) whole cell lysates.



BRUNOL4 (A-4): sc-514730. Western blot analysis of BRUNOL4 expression in human brain tissue extract.

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.