

# BRUNOL4 (G-19): sc-84712

## 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

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- 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.
- Gromak, N., et al. 2003. Antagonistic regulation of  $\alpha$ -actinin alternative splicing by CELF proteins and polypyrimidine tract binding protein. *RNA* 9: 443-456.
- 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.
- 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.
- Han, J. and Cooper, T.A. 2005. Identification of CELF splicing activation and repression domains *in vivo*. *Nucleic Acids Res.* 33: 2769-2780.
- Yang, Y., et al. 2007. Complex seizure disorder caused by BRUNOL4 deficiency in mice. *PLoS Genet.* 3: e124.

## CHROMOSOMAL LOCATION

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

## SOURCE

BRUNOL4 (G-19) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping near the N-terminus of BRUNOL4 of human origin.

## PRODUCT

Each vial contains 100  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-84712 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

BRUNOL4 (G-19) is recommended for detection of BRUNOL4 of mouse and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g 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).

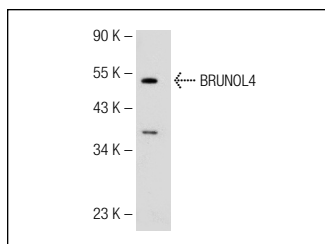
BRUNOL4 (G-19) is also recommended for detection of BRUNOL4 in additional species, including equine, canine, bovine, porcine and avian.

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.

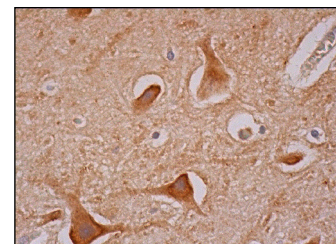
Molecular Weight of BRUNOL4: 52 kDa.

Positive Controls: WI-38 whole cell lysate: sc-364260.

## DATA



BRUNOL4 (G-19): sc-84712. Western blot analysis of BRUNOL4 expression in WI 38 whole cell lysate.



BRUNOL4 (G-19): sc-84712. Immunoperoxidase staining of formalin fixed, paraffin-embedded human cerebral cortex tissue showing cytoplasmic staining of neuronal cells.

## 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](http://www.scbt.com) or our catalog for detailed protocols and support products.