

KCTD7 (S-16): sc-164724

BACKGROUND

The BTB (Broad-Complex, Tramtrack and Bric a brac) domain, also known as the POZ (Poxvirus and Zinc finger) domain, is an N-terminal homodimerization domain that contains multiple copies of kelch repeats and/or C₂H₂-type zinc fingers. Proteins that contain BTB domains are thought to be involved in transcriptional regulation via control of chromatin structure and function. KCTD7 (potassium channel tetramerisation domain containing 7), also known as EPM3, is a 289 amino acid protein that contains one BTB (POZ) domain. Existing as 2 alternatively spliced isoforms, the gene encoding KCTD7 maps to human chromosome 7q11.21 and mouse chromosome 5 G1.3. Defects to the KCTD7 gene have been linked to progressive myoclonic epilepsy type 3 (EPM3), an autosomal recessive disorder characterized by severe early-onset epilepsy. Other phenotypic characteristics associated with EPM3 include mental retardation, truncal ataxia, dysarthria and loss of fine finger movement.

REFERENCES

1. Bardwell, V.J., et al. 1994. The POZ domain: a conserved protein-protein interaction motif. *Genes Dev.* 8: 1664-1677.
2. Zollman, S., et al. 1994. The BTB domain, found primarily in zinc finger proteins, defines an evolutionarily conserved family that includes several developmentally regulated genes in *Drosophila*. *Proc. Natl. Acad. Sci. USA* 91: 10717-10721.
3. Ahmad, K.F., et al. 1998. Crystal structure of the BTB domain from PLZF. *Proc. Natl. Acad. Sci. USA* 95: 12123-12128.
4. Van Bogaert, P., et al. 2007. Mutation of a potassium channel-related gene in progressive myoclonic epilepsy. *Ann. Neurol.* 61: 579-586.
5. Wineinger, N.E., et al. 2011. Genome-wide joint SNP and CNV analysis of aortic root diameter in African Americans: the HyperGEN study. *BMC Med. Genomics* 4: 4.
6. Azizieh, R., et al. 2011. Progressive myoclonic epilepsy-associated gene KCTD7 is a regulator of potassium conductance in neurons. *Mol. Neurobiol.* 44: 111-121.

CHROMOSOMAL LOCATION

Genetic locus: KCTD7 (human) mapping to 7q11.21; Kctd7 (mouse) mapping to 5 G1.3.

SOURCE

KCTD7 (S-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of KCTD7 of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-164724 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

RESEARCH USE

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

APPLICATIONS

KCTD7 (S-16) is recommended for detection of KCTD7 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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); non cross-reactive with other KCTD family members.

KCTD7 (S-16) is also recommended for detection of KCTD7 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for KCTD7 siRNA (h): sc-89656, KCTD7 siRNA (m): sc-146398, KCTD7 shRNA Plasmid (h): sc-89656-SH, KCTD7 shRNA Plasmid (m): sc-146398-SH, KCTD7 shRNA (h) Lentiviral Particles: sc-89656-V and KCTD7 shRNA (m) Lentiviral Particles: sc-146398-V.

Molecular Weight of KCTD7: 33 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

STORAGE

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

PROTOCOLS

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