

CACFD1 (E-12): sc-138758

BACKGROUND

Voltage-dependent Ca²⁺ channels are highly diverse, multimeric complexes that mediate Ca²⁺ entry into excitable cells in response to membrane depolarization, and they are involved in a variety of Ca²⁺-dependent processes, including muscle contraction, hormone or neurotransmitter release and gene expression. CACFD1 (calcium channel flower domain containing 1), also known as CACFD1, FLOWER or D9S2135, is a 172 amino acid multi-pass membrane protein belonging to the calcium channel flower family. Existing as four alternatively spliced isoforms, CACFD1 may function as a Ca²⁺ channel, regulating synaptic endocytosis. CACFD1 is encoded by a gene located on human chromosome 9, which consists of about 145 million bases and 4% of the human genome and encodes nearly 900 genes.

REFERENCES

- Perez-Reyes, E., et al. 1995. Molecular biology of calcium channels. *Kidney Int.* 48: 1111-1124.
- Catterall, W.A. 2000. Structure and regulation of voltage-gated Ca²⁺ channels. *Annu. Rev. Cell Dev. Biol.* 16: 521-555.
- Davare, M.A., et al. 2001. A beta2 adrenergic receptor signaling complex assembled with the Ca²⁺ channel Cav1.2. *Science* 293: 98-101.
- Humphray, S.J., et al. 2004. DNA sequence and analysis of human chromosome 9. *Nature* 429: 369-374.
- Brose, N., et al. 2009. Flowers for synaptic endocytosis. *Cell.* 138: 836-837.
- Yao, C.K., et al. 2009. A synaptic vesicle-associated Ca²⁺ channel promotes endocytosis and couples exocytosis to endocytosis. *Cell.* 138: 947-960.
- SWISS-PROT/TrEMBL (Q9UGQ2). World Wide Web URL: <http://www.uniprot.org>

CHROMOSOMAL LOCATION

Genetic locus: CACFD1 (human) mapping to 9q34.2; *Cacfd1* (mouse) mapping to 2 A3.

SOURCE

CACFD1 (E-12) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of CACFD1 of human origin.

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 or our catalog for detailed protocols and support products.

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-138758 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

CACFD1 (E-12) is recommended for detection of CACFD1 isoform 1 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 isoform CACFD1-2; non cross-reactive with other C9orf family members.

CACFD1 (E-12) is also recommended for detection of CACFD1 isoform 1 in additional species, including canine and porcine.

Suitable for use as control antibody for CACFD1 siRNA (h): sc-92864, CACFD1 siRNA (m): sc-141954, CACFD1 shRNA Plasmid (h): sc-92864-SH, CACFD1 shRNA Plasmid (m): sc-141954-SH, CACFD1 shRNA (h) Lentiviral Particles: sc-92864-V and CACFD1 shRNA (m) Lentiviral Particles: sc-141954-V.

Molecular Weight of CACFD1: 18/14 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.