SANTA CRUZ BIOTECHNOLOGY, INC.

CCM3 (E-15): sc-67907



BACKGROUND

Programmed cell death (apoptosis) of nonessential cells is necessary for embryogenesis, metamorphosis, tissue turnover and proper development and function of the immune system. CCM3, also known as PDCD10, is a member of the family of programmed cell death proteins that regulate apoptotic pathways. CCM3 is an anti-apoptotic protein that is essential for proper vascular development and maturation. Through direct interaction with and positive regulation of MST-4 in the ERK pathway, CCM3 promotes proper cell growth and differentiation. Defects in the gene encoding CCM3 may be related to cerebral cavernous malformations 3 (CCM3), a disease characterized by vascular anomalies found in the central nervous system that can cause stroke, seizures and focal hemorrhages.

REFERENCES

- Bergametti, F., Denier, C., Labauge, P., Arnoult, M., Boetto, S., Clanet, M., Coubes, P., Echenne, B., Ibrahim, R., Irthum, B., Jacquet, G., Lonjon, M., Moreau, J.J., Neau, J.P., Parker, F., Tremoulet, M. and Tournier-Lasserve, E. 2004. Mutations within the programmed cell death 10 gene cause cerebral cavernous malformations. Am. J. Hum. Genet. 76: 42-51.
- Guclu, B., Ozturk, A.K., Pricola, K.L., Bilguvar, K., Shin, D., O'Roak, B.J. and Gunel, M. 2005. Mutations in apoptosis-related gene, PDCD10, cause cerebral cavernous malformation 3. Neurosurgery 57: 1008-1013.
- Liquori, C.L., Berg, M.J., Squitieri, F., Ottenbacher, M., Sorlie, M., Leedom, T.P., Cannella, M., Maglione, V., Ptacek, L., Johnson, E.W. and Marchuk, D.A. 2005. Low frequency of PDCD10 mutations in a panel of CCM3 probands: potential for a fourth CCM locus. Hum. Mutat. 27: 118.
- Verlaan, D.J., Roussel, J., Laurent, S.B., Elger, C.E., Siegel, A.M. and Rouleau, G.A. 2005. CCM3 mutations are uncommon in cerebral cavernous malformations. Neurology 65: 1982-1983.
- Petit, N., Blecon, A., Denier, C. and Tournier-Lasserve, E. 2006. Patterns of expression of the three cerebral cavernous malformation (CCM) genes during embryonic and postnatal brain development. Gene Expr. Patterns 6: 495-503.
- Dashti, S.R., Hoffer, A., Hu, Y.C. and Selman, W.R. 2006. Molecular genetics of familial cerebral cavernous malformations. Neurosurg. Focus 21: e2.
- Ma, X., Zhao, H., Shan, J., Long, F., Chen, Y., Chen, Y., Zhang, Y., Han, X. and Ma, D. 2007. PDCD10 interacts with Ste20-related kinase MST-4 to promote cell growth and transformation via modulation of the ERK pathway. Mol. Biol. Cell 18: 1965-1978.
- Voss, K., Stahl, S., Schleider, E., Ullrich, S., Nickel, J., Felbor, U. and Mueller, T.D. 2007. CCM3 interacts with CCM2 indicating common pathogenesis for cerebral cavernous malformations. Neurogenetics 8: 249-256.
- Bencharit, S., Colicelli, J., Hilder, T.L., Malone, M.H., Haystead, T.A., Johnson, G.L. and Wu, C.C. 2007. Proteomic identification of the cerebral cavernous malformation signaling complex. J. Proteome Res. 6: 4343-4355.

CHROMOSOMAL LOCATION

Genetic locus: PDCD10 (human) mapping to 3q26.1; Pdcd10 (mouse) mapping to 3 E3.

SOURCE

CCM3 (E-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of CCM3 of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-67907 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

CCM3 (E-15) is recommended for detection of CCM3 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).

CCM3 (E-15) is also recommended for detection of CCM3 in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for CCM3 siRNA (h): sc-62084, CCM3 siRNA (m): sc-62085, CCM3 shRNA Plasmid (h): sc-62084-SH, CCM3 shRNA Plasmid (m): sc-62085-SH, CCM3 shRNA (h) Lentiviral Particles: sc-62084-V and CCM3 shRNA (m) Lentiviral Particles: sc-62085-V.

Molecular Weight of CCM3: 25 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) Immunofluo-rescence: 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.

RESEARCH USE

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

MONOS Satisfation Guaranteed

Try CCM3 (C-8): sc-365586 or CCM3 (F-12): sc-365587, our highly recommended monoclonal alternatives to CCM3 (E-15).