

CALHM3 (S-16): sc-242304

BACKGROUND

The level of intracellular calcium is tightly regulated in all eukaryotic cells. A modest increase in this level can result in a myriad of physiological responses, most of which are mediated by calmodulin (CaM), the universal calcium sensor. CALHM3 (calcium homeostasis modulator protein 3), also known as FAM26A, is a 350 amino acid multi-pass membrane protein that may be involved in the modulation of calcium signaling stemming from bitter, sweet and umami receptor activation in taste buds. Unlike CALHM1, it is not likely that CALHM3 plays a role in the pathogenesis of Alzheimer's Disease. There are two isoforms of CALHM3 that are produced as a result of alternative splicing events. The gene encoding CALHM3 maps to human chromosome 10, which contains over 800 genes and 135 million nucleotides, making up nearly 4.5% of the human genome.

REFERENCES

- Dreses-Werringloer, U., Lambert, J.C., Vingtdoux, V., Zhao, H., Vais, H., Siebert, A., Jain, A., Koppel, J., Rovelet-Lecrux, A., Hannequin, D., Pasquier, F., Galimberti, D., Scarpini, E., Mann, D., Lendon, C., Campion, D., Amouyel, P., Davies, P., Foskett, J.K., Campagne, F. and Marambaud, P. 2008. A polymorphism in CALHM1 influences Ca^{2+} homeostasis, $A\beta$ levels, and Alzheimer's disease risk. *Cell* 133: 1149-1161.
- Lambert, J.C., Campagne, F. and Marambaud, P. 2008. CALHM1, a novel gene to blame in Alzheimer disease. *Med. Sci.* 24: 923-924.
- Tanzi, R.E. and Bertram, L. 2008. Alzheimer's disease: The latest suspect. *Nature* 454: 706-708.
- Moyer, B.D., Hevezi, P., Gao, N., Lu, M., Kalabat, D., Soto, H., Echeverri, F., Laita, B., Yeh, S.A., Zoller, M. and Zlotnik, A. 2009. Expression of genes encoding multi-transmembrane proteins in specific primate taste cell populations. *PLoS ONE* 4: e7682.
- Shibata, N., Kuerban, B., Komatsu, M., Ohnuma, T., Baba, H. and Arai, H. 2010. Genetic association between CALHM1, 2, and 3 polymorphisms and Alzheimer's disease in a Japanese population. *J. Alzheimers Dis.* 20: 417-421.
- Lin, K., Tang, M., Han, H., Guo, Y., Lin, Y. and Ma, C. 2010. Association between the polymorphisms of CALHM1 and GOLPH2 genes and Alzheimer's disease. *Psychiatr. Genet.* 20: 190.

CHROMOSOMAL LOCATION

Genetic locus: CALHM3 (human) mapping to 10q24.33.

SOURCE

CALHM3 (S-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of CALHM3 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.

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-242304 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

CALHM3 (S-16) is recommended for detection of CALHM3 of human and rat 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 CALHM1 or CALHM2.

CALHM3 (S-16) is also recommended for detection of CALHM3 in additional species, including equine, canine and bovine.

Suitable for use as control antibody for CALHM3 siRNA (h): sc-90374, CALHM3 shRNA Plasmid (h): sc-90374-SH and CALHM3 shRNA (h) Lentiviral Particles: sc-90374-V.

Molecular Weight of CALHM3: 39/38 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.

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.