SANTA CRUZ BIOTECHNOLOGY, INC.

Vgl-4 (A-12): sc-100229

BACKGROUND

The transcriptional enhancer factor-1 (TEF-1) family of transcription factors regulate tissue-specific gene expression in muscle and placenta. The mechanism whereby TEF-1 confers tissue specificity depends largely on the interaction of TEF-1 with tissue-specific cofactors. Transcription cofactor Vgl-4 (vestigial-like protein 4) is a 290 amino acid nuclear protein that interacts with TEF-1 and MEF-2. Vgl-4 is the only member of the vestigial-like family that is expressed in heart. Overexpression of Vgl-4 in cardiac myocytes interferes with basal expression and α1-adrenergic receptor-dependent activation of a TEF-1 dependent skeletal α-actin promoter. This suggests that Vgl-4 counteracts α1-adrenergic activation of gene expression in cardiomyocytes. There are two isoforms of Vgl-4 that are produced as a result of alternative splicing events.

REFERENCES

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2. Naya, F.J. and Olson, E. 1999. MEF2: a transcriptional target for signaling pathways controlling skeletal muscle growth and differentiation. Curr. Opin. Cell Biol. 11: 683-688.
3. Maeda, T., Chapman, D.L. and Stewart, A.F. 2002. Mammalian vestigial-like 2, a cofactor of TEF-1 and MEF2 transcription factors that promotes skeletal muscle differentiation. J. Biol. Chem. 277: 48889-48898.
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5. Chen, H.H., Mullett, S.J. and Stewart, A.F. 2004. Vgl-4, a novel member of the vestigial-like family of transcription cofactors, regulates α1-adrenergic activation of gene expression in cardiac myocytes. J. Biol. Chem. 279: 30800-30806.
6. Mahoney, W.M., Hong, J.H., Yaffe, M.B. and Farrance, I.K. 2005. The transcriptional co-activator TAZ interacts differentially with transcriptional enhancer factor-1 (TEF-1) family members. Biochem. J. 388: 217-225.
7. Mann, C.J., Osborn, D.P. and Hughes, S.M. 2007. Vestigial-like-2b (VITO-1b) and Tead-3a (Tef-5a) expression in zebrafish skeletal muscle, brain and notochord. Gene Expr. Patterns 7: 827-836.
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CHROMOSOMAL LOCATION

Genetic locus: VGLL4 (human) mapping to 3p25.2; Vgll4 (mouse) mapping to 6 E3.

STORAGE

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

SOURCE

Vgl-4 (A-12) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of Vgl-4 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-100229 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Vgl-4 (A-12) is recommended for detection of Vgl-4 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 Vgl family members.

Suitable for use as control antibody for Vgl-4 siRNA (h): sc-78245, Vgl-4 siRNA (m): sc-155104, Vgl-4 shRNA Plasmid (h): sc-78245-SH, Vgl-4 shRNA Plasmid (m): sc-155104-SH, Vgl-4 shRNA (h) Lentiviral Particles: sc-78245-V and Vgl-4 shRNA (m) Lentiviral Particles: sc-155104-V.

Molecular Weight of Vgl-4: 31 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.