SANTA CRUZ BIOTECHNOLOGY, INC.

APEG1 (E-14): sc-167091

BACKGROUND

APEG1 (aortic preferentially expressed protein 1), also known as SPEG (striated muscle preferentially expressed protein kinase) or nuclear protein, marker for differentiated aortic smooth muscle and down-regulated with vascular injury, is a 3,267 amino acid protein that belongs to the protein kinase superfamily and the CAMK serine/threonine protein kinase family. Encoded by a gene that maps to human chromosome 2q35, APEG1 is phosphorylated upon DNA damage, likely by Atm or ATR, and may also be autophosphorylated. APEG1 contains two fibronectin type-III domains, nine Ig-like (immunoglobulin-like) domains, two protein kinase domains and exists as four alternatively spliced isoforms. Isoform 1 is preferentially expressed in striated muscle, while isoform 3, a non-kinase monomer or homodimer, is exclusively expressed in normal vessel walls of highly differentiated aortic smooth muscle cells (ASMC), which are linked to vascular injury response and arteriosclerosis. Isoform 3 is also down-regulated in dedifferentiated ASMC *in vivo*. APEG1 may assist in growth regulation and differentiation of arterial smooth muscle cells.

REFERENCES

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6. Mahoney, W.M., et al. 2005. Defining smooth muscle cells and smooth muscle injury. J. Clin. Invest. 115: 221-224.
7. Tam, J.L., et al. 2006. The human desmin locus: gene organization and LCR-mediated transcriptional control. Genomics 87: 733-746.
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CHROMOSOMAL LOCATION

Genetic locus: SPEG (human) mapping to 2q35; Speg (mouse) mapping to 1 C4.

RESEARCH USE

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

SOURCE

APEG1 (E-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of APEG1 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-167091 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

APEG1 (E-14) is recommended for detection of APEG1 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).

APEG1 (E-14) is also recommended for detection of APEG1 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for APEG1 siRNA (h): sc-94384, APEG1 siRNA (m): sc-141148, APEG1 shRNA Plasmid (h): sc-94384-SH, APEG1 shRNA Plasmid (m): sc-141148-SH, APEG1 shRNA (h) Lentiviral Particles: sc-94384-V and APEG1 shRNA (m) Lentiviral Particles: sc-141148-V.

Molecular Weight of APEG1: 355 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.