

# BVES (C-20): sc-49889

## BACKGROUND

Blood vessel epicardial substance (BVES), also designated Popeye protein 1, is a transmembrane protein that plays a role in cell-cell interactions and adhesion, specifically at tight junctions. BVES is composed of an extracellular amino-terminus, three transmembrane domains and a cytoplasmic carboxyl-terminus. It is expressed in the developing coronary vascular system, specifically in the proepicardium, migrating epithelial epicardium, delaminated vasculogenic mesenchyme and vascular smooth muscle cells, where it functions to direct development in heart, epithelial and muscle cells during embryogenesis. BVES accumulates at points of cell/cell contact, such as filopodia and cell borders, and promotes adhesion prior to the arrival of E-cadherin. It also regulates epithelial integrity during cell movement and growth.

## REFERENCES

1. Reese, D.E., et al. 1999. bves: A novel gene expressed during coronary blood vessel development. *Dev. Biol.* 209: 159-171.
2. Wada, A.M., et al. 2001. Bves: prototype of a new class of cell adhesion molecules expressed during coronary artery development. *Development* 128: 2085-2093.
3. Osler, M.E., et al. 2004. Bves expression during avian embryogenesis. *Dev. Dyn.* 229: 658-667.
4. Vasavada, T.K., et al. 2004. Developmental expression of Pop1/ Bves. *J. Histochem. Cytochem.* 52: 371-377.
5. Brand, T. 2005. The Popeye domain-containing gene family. *Cell Biochem. Biophys.* 43: 95-103.
6. Osler, M.E., et al. 2005. Bves modulates epithelial integrity through an interaction at the tight junction. *J. Cell Sci.* 118: 4667-4678.
7. von Kodolitsch, Y., et al. 2005. Coronary artery anomalies. Part I: recent insights from molecular embryology. *Z. Kardiol.* 93: 929-937.
8. Osler, M.E., et al. 2006. Bves, a member of the Popeye domain-containing gene family. *Dev. Dyn.* 235: 586-593.
9. Ripley, A.N., et al. 2006. Xbves is a regulator of epithelial movement during early *Xenopus laevis* development. *Proc. Natl. Acad. Sci. USA* 103: 614-619.

## CHROMOSOMAL LOCATION

Genetic locus: BVES (human) mapping to 6q21; Bves (mouse) mapping to 10 B2.

## SOURCE

BVES (C-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of BVES 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-49889 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

BVES (C-20) is recommended for detection of BVES (blood vessel epicardial substance) 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).

BVES (C-20) is also recommended for detection of BVES (Blood vessel epicardial substance) in additional species, including canine, bovine and porcine.

Suitable for use as control antibody for BVES siRNA (h): sc-60295, BVES siRNA (m): sc-60296, BVES siRNA (r): sc-270037, BVES shRNA Plasmid (h): sc-60295-SH, BVES shRNA Plasmid (m): sc-60296-SH, BVES shRNA Plasmid (h): sc-270037-SH, BVES shRNA (h) Lentiviral Particles: sc-60295-V, BVES shRNA (m) Lentiviral Particles: sc-60296-V and BVES shRNA (h) Lentiviral Particles: sc-270037-V.

Molecular Weight of BVES: 41 kDa.

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Positive Controls: IMR-32 cell lysate: sc-2409.

## 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.

## SELECT PRODUCT CITATIONS

1. Gingold-Belfer, R., et al. 2011. Popeye domain-containing 1 is down-regulated in failing human hearts. *Int. J. Mol. Med.* 27: 25-31.
2. Alcalay, Y., et al. 2013. Popeye domain containing 1 (Popdc1/Bves) is a caveolae-associated protein involved in ischemia tolerance. *PLoS ONE* 8: e71100.

## 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.



Try **BVES (E-3): sc-374081** or **BVES (H-4): sc-374082**, our highly recommended monoclonal alternatives to BVES (C-20).