

Crossveinless-2 (E-17) : sc-54170

BACKGROUND

Crossveinless-2, also known as BMP-binding endothelial regulator protein, Cvl2 or Cv2, is a member of the Chordin family. It is an evolutionarily conserved protein that was first identified in *Drosophila* where it is required for the formation of cross-veins in the wing. Crossveinless-2 is a developmentally secreted glycoprotein that contains a trypsin inhibitory-like (TIL) domain, five von Willebrand factor type C (VWF C) domains and one VWF type D (VWFD) domain. Crossveinless-2 regulates BMP homeostasis in early vertebrate embryonic tissues via its cysteine-rich BMP-binding domains. It is expressed during development at sites of high BMP signaling and its expression is responsive to this signaling thereby providing positive feedback. Crossveinless-2 directly interacts with BMP4 and BMP2 and can function either to enhance or inhibit BMP signaling. Crossveinless-2 may function to promote BMP signaling by aiding in ligand transport.

REFERENCES

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2. Coles, E., et al. 2004. A vertebrate crossveinless 2 homologue modulates BMP activity and neural crest cell migration. *Development* 131: 5309-5317.
3. Binnerts, M.E., et al. 2004. Human Crossveinless-2 is a novel inhibitor of bone morphogenetic proteins. *Biochem. Biophys. Res. Commun.* 315: 272-280.
4. Kamimura, M., et al. 2004. Vertebrate crossveinless 2 is secreted and acts as an extracellular modulator of the BMP signaling cascade. *Dev. Dyn.* 230: 434-445.
5. O'Connor, M.B., et al. 2005. Shaping BMP morphogen gradients in the *Drosophila* embryo and pupal wing. *Development* 133: 183-193.
6. Rentzsch, F., et al. 2006. Crossveinless 2 is an essential positive feedback regulator of Bmp signaling during zebrafish gastrulation. *Development* 133: 801-811.
7. Ikeya, M., et al. 2006. Essential pro-Bmp roles of crossveinless 2 in mouse organogenesis. *Development* 133: 4463-4473.
8. Koike, N., et al. 2007. Brorin, a novel secreted bone morphogenetic protein antagonist, promotes neurogenesis in mouse neural precursor cells. *J. Biol. Chem.* 282: 15843-15850.

CHROMOSOMAL LOCATION

Genetic locus: BMPER (human) mapping to 7p14.3; Bmper (mouse) mapping to 9 A3.

SOURCE

Crossveinless-2 (E-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of Crossveinless-2 of human origin.

RESEARCH USE

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

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-54170 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Crossveinless-2 (E-17) is recommended for detection of Crossveinless-2 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).

Crossveinless-2 (E-17) is also recommended for detection of Crossveinless-2 in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for Crossveinless-2 siRNA (h): sc-72318, Crossveinless-2 siRNA (m): sc-72319, Crossveinless-2 shRNA Plasmid (h): sc-72318-SH, Crossveinless-2 shRNA Plasmid (m): sc-72319-SH, Crossveinless-2 shRNA (h) Lentiviral Particles: sc-72318-V and Crossveinless-2 shRNA (m) Lentiviral Particles: sc-72319-V.

Molecular Weight of Crossveinless-2: 80 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.