

# Crossveinless-2 (G-8): sc-377502

## 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 crossveins in the wing. Crossveinless-2 is a developmentally secreted glycoprotein that contains a trypsin inhibitory-like (TIL) domain, five von Willebrand factor type C (VWFC) 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

1. Coffinier, C., et al. 2002. Mouse Crossveinless-2 is the vertebrate homolog of a *Drosophila* extracellular regulator of BMP signaling. *Gene Expr. Patterns* 2: 189-194.
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.

## CHROMOSOMAL LOCATION

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

## SOURCE

Crossveinless-2 (G-8) is a mouse monoclonal antibody raised against amino acids 497-685 mapping at the C-terminus of Crossveinless-2 of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Crossveinless-2 (G-8) is available conjugated to agarose (sc-377502 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-377502 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-377502 PE), fluorescein (sc-377502 FITC), Alexa Fluor® 488 (sc-377502 AF488), Alexa Fluor® 546 (sc-377502 AF546), Alexa Fluor® 594 (sc-377502 AF594) or Alexa Fluor® 647 (sc-377502 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-377502 AF680) or Alexa Fluor® 790 (sc-377502 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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## STORAGE

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

## APPLICATIONS

Crossveinless-2 (G-8) is recommended for detection of Crossveinless-2 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], 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).

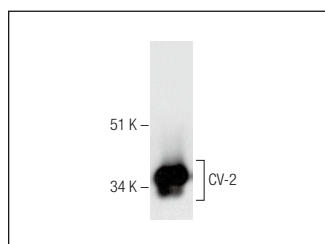
Suitable for use as control antibody for Crossveinless-2 siRNA (h): sc-72318, Crossveinless-2 siRNA (m): sc-72319, Crossveinless-2 shRNA Plasmid (h): sc-72318-SH, Crossveinless-2 shRNA Plasmid (m): sc-72319-SH, Crossveinless-2 shRNA (h) Lentiviral Particles: sc-72318-V and Crossveinless-2 shRNA (m) Lentiviral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

Molecular Weight of Crossveinless-2: 80 kDa.

## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

## DATA



Crossveinless-2 (G-8): sc-377502. Western blot analysis of human recombinant CV-2.

## SELECT PRODUCT CITATIONS

1. Mun, S., et al. 2022. Transcriptome profile of membrane and extracellular matrix components in ligament-fibroblastic progenitors and cementoblasts differentiated from human periodontal ligament cells. *Genes* 13: 659.
2. Gao, F., et al. 2022. Decoding the IGF1 signaling gene regulatory network behind alveologenesis from a mouse model of bronchopulmonary dysplasia. *Elife* 11: e77522.

## RESEARCH USE

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