Mouse Crossveinless-2/CV-2 Antibody

Antigen Affinity-purified Polyclonal Goat IgG
Catalog Number: AF2299

DESCRIPTION

Species Reactivity	Mouse
Specificity	Detects mouse Crossveinless-2/CV-2 in direct ELISAs and Western blots. In Western blots, approximately 50% cross-reactivity with recombinant human CV-2 is observed.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	Mouse myeloma cell line NS0-derived recombinant mouse Crossveinless-2/CV-2 (R&D Systems, Catalog # 2299-CV) Ala39-Arg685 Accession # AAH66153
Formulation	Lyophilized from a 0.2 μm filtered solution in PBS with Trehalose.

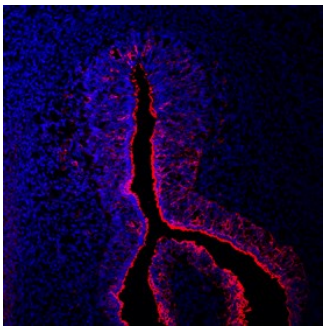
APPLICATIONS

Please Note: *Optimal dilutions should be determined by each laboratory for each application. General Protocols are available in the Technical Information section on our website.*

	Recommended Concentration	Sample
Western Blot	0.1 µg/mL	Recombinant Mouse Crossveinless-2/CV-2 (Catalog # 2299-CV)
Immunohistochemistry	5-15 µg/mL	See Below

DATA

Immunohistochemistry



Crossveinless-2/CV-2 in Mouse Embryo. Crossveinless-2/CV-2 was detected in immersion fixed frozen sections of mouse embryo (E13.5) using Mouse Crossveinless-2/CV-2 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF2299) at 10 µg/mL overnight at 4 °C. Tissue was stained using the NorthernLights™ 557-conjugated Anti-Goat IgG Secondary Antibody (red; Catalog # Catalog # NL001) and counterstained with DAPI (blue). Specific staining was localized to the epithelium surrounding the nasal cavity. View our protocol for Fluorescent IHC Staining of Frozen Tissue Sections.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.2 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** • 12 months from date of receipt, -20 to -70 °C as supplied. • 1 month, 2 to 8 °C under sterile conditions after reconstitution. • 6 months, -20 to -70 °C under sterile conditions after reconstitution.

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BACKGROUND

Crossveinless-2 (CV-2), also known as bone morphogenetic protein-binding endothelial cell precursor-derived regulator (BMPER), is a secreted chordin-like protein that modulates the BMP signaling pathway (1-3). Mouse CV-2 is synthesized as a 685 amino acid (aa) residue precursor protein with a putative 39 aa signal peptide, five tandem chordin-like cysteine-rich (CR) domains, a partial von Willebrand factor type D domain (vWD), and a carboxyl trypsin inhibitor-like cysteine-rich domain (TIL) (1, 2, 4). Secreted CV-2 is reported to be proteolytically cleaved to generate two fragments that are disulfide-linked (1, 2). The GDPH sequence is conserved in CV-2 from other species. It is also found in multiple proteins that undergo a similar type of cleavage (5). Mouse CV-2 message is detected in many tissues, with the highest expression detected in the heart, lungs, and skin (2). It is also expressed in flk-1^+ endothelial cell precursors and in primary chondrocytes (2). During embryonic development, CV-2 is expressed in the dorsal midline, regions of the telencephalon, migrating cells of the branchial neural crest and endothelial cells in the yolk sac (2). Mouse CV-2 shares 92% and 34% aa sequence identity with the human and Drosophila homologs, respectively (1, 4). Results from biochemical experiments using recombinant CV-2 show that CV-2 directly interacts with BMP-2, -4, and -6 to antagonize BMP signaling, which can regulate a wide range of differentiation processes (1, 2). In contrast, genetic data from *Drosophila* suggest that CV-2 potentiates BMP-signaling (6). It is possible that like TSG, CV-2 can positively and negatively modulate BMP signal transduction depending on the cell context (7).

References:

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