Mouse Crossveinless-2/CV-2 Antibody

Monoclonal Rat IgG_{2A} Clone # 349920

Catalog Number: MAB2299

DESCRIPTION

Species Reactivity	Mouse
Specificity	Detects mouse Crossveinless-2/CV-2 in direct ELISAs and Western blots. In direct ELISAs and Western blots, 100% cross-reactivity with recombinant human CV-2 is observed.
Source	Monoclonal Rat IgG_{2A} Clone # 349920
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Mouse myeloma cell line NS0-derived recombinant mouse Crossveinless-2/CV-2 Val34-Arg685 Accession # AAH66153
Formulation	Lyophilized from a 0.2 μm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied either lyophilized or as a 0.2 μm filtered solution in PBS.

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	1 µg/mL	Recombinant Mouse Crossveinless-2/CV-2 (Catalog # 2299-CV)

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.5 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
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.

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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