Human Crossveinless-2/CV-2 Antibody

Antigen Affinity-purified Polyclonal Sheep IgG
Catalog Number: AF1956

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human Crossveinless-2/CV-2 in direct ELISAs and Western blots. In these formats, approximately 10% cross-reactivity with recombinant mouse CV-2 is observed.
Source	Polyclonal Sheep IgG
Purification	Antigen Affinity-purified
Immunogen	Mouse myeloma cell line NS0-derived recombinant human Crossveinless-2/CV-2 (R&D Systems, Catalog # 1956-CV) Val34-Arg685 Accession # Q8N8U9
Endotoxin Level	<0.10 EU per 1 µg of the antibody by the LAL method.
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.

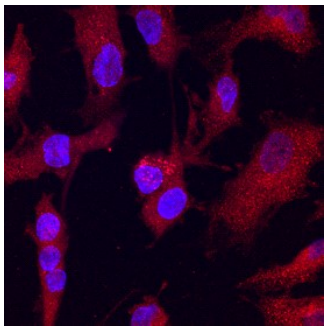
APPLICATIONS

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	0.1 µg/mL	Recombinant Human Crossveinless-2/CV-2 (Catalog # 1956-CV)
Immunocytochemistry	5-15 µg/mL	See Below

DATA

Immunocytochemistry



Crossveinless-2/CV-2 in HUVEC Human Cells. Crossveinless-2/CV-2 was detected in immersion fixed HUVEC human umbilical vein endothelial cells using Human Crossveinless-2/CV-2 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF1956) at 10 µg/mL for 3 hours at room temperature. Cells were stained using the NorthernLights™ 557-conjugated Anti-Sheep IgG Secondary Antibody (red; Catalog # NL010) and counterstained with DAPI (blue). Specific staining was localized to cytoplasm. View our protocol for Fluorescent ICC Staining of Cells on Coverslips.

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. *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.

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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). Human 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, 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). Human CV-2 message is detected in many tissues, with the highest expression detected in adult brain and adult and fetal lung (1). It is also expressed in flk-1$^+$ endothelial cell precursors and in primary chondrocytes (2). During embryonic development, CV-2 is expressed in regions of high BMP signaling, such as the posterior primitive streak and the ventral tail bud (4). Human CV-2 shares 92% and 34% aa sequence identity with the mouse 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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