**DESCRIPTION**

**Species Reactivity** Human

**Specificity** Detects human Crossveinless-2/CV-2 in direct ELISAs and Western blots. In Western blots, 25% cross-reactivity with recombinant mouse CV-2 is observed.

**Source** Monoclonal Rat IgG2A Clone # 355304

**Purification** Protein A or G purified from hybridoma culture supernatant

**Immunogen** Mouse myeloma cell line NS0-derived recombinant human Crossveinless-2/CV-2 Val34-Arg886 Accession # Q8N8U9

**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.

<table>
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<th>Recommended Concentration</th>
<th>Sample</th>
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<td>1 µg/mL</td>
<td>Recombinant Human Crossveinless-2/CV-2 (Catalog # 1956-CV)</td>
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**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). Human CV-2 is synthesized as a 685 amino acid (aa) 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 cleavage site of R&D Systems’ recombinant CV-2 is found to be between Asp369 and Pro370 in the GDPH sequence within the vWD domain. This cleavage is likely due to an autocatalytic mechanism triggered by low pH comparable to that of the late secretory pathway (5). The GDPH sequence is conserved in CV-2, 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:**