

## DESCRIPTION

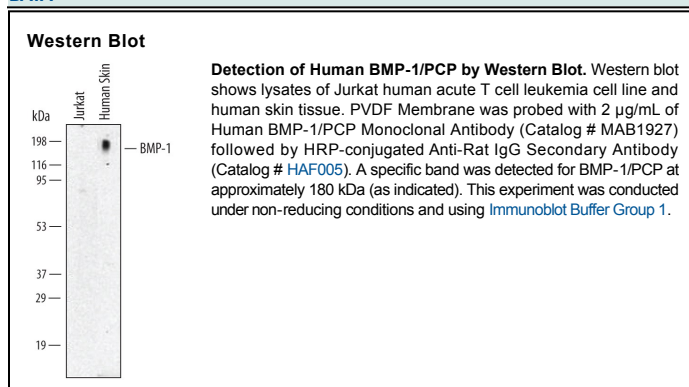
<b>Species Reactivity</b>	Human
<b>Specificity</b>	Detects human BMP-1/PCP in direct ELISAs and Western blots.
<b>Source</b>	Monoclonal Rat IgG <sub>2B</sub> Clone # 264822
<b>Purification</b>	Protein A or G purified from hybridoma culture supernatant
<b>Immunogen</b>	Mouse myeloma cell line NS0-derived recombinant human BMP-1/PCP Ala121-Gln730 Accession # NP_001190
<b>Formulation</b>	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied 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
<b>Western Blot</b>	2 µg/mL	See Below
<b>Immunoprecipitation</b>	25 µg/mL	Conditioned cell culture medium spiked with Recombinant Human BMP-1/PCP (Catalog # 1927-ZN), see our available Western blot detection antibodies

## DATA



## PREPARATION AND STORAGE

<b>Reconstitution</b>	Reconstitute at 0.5 mg/mL in sterile PBS.
<b>Shipping</b>	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
<b>Stability &amp; Storage</b>	<b>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</b> <ul style="list-style-type: none"> <li>• 12 months from date of receipt, -20 to -70 °C as supplied.</li> <li>• 1 month, 2 to 8 °C under sterile conditions after reconstitution.</li> <li>• 6 months, -20 to -70 °C under sterile conditions after reconstitution.</li> </ul>

## BACKGROUND

Bone morphogenetic protein 1 (BMP-1), also known as procollagen C-proteinase (PCP), is a zinc protease of the astacin family (1, 2). BMP-1/PCP plays a key role in formation of extracellular matrix (ECM) by converting precursor proteins into their mature and functional forms. The precursor proteins identified as substrates for BMP-1/PCP include collagens, biglycan, laminin 5, dentin matrix protein-1, and lysyl oxidase (3). There are six alternatively spliced forms known to be derived from the BMP-1 gene, and isoform 1 consisting of residues 1 to 730 was expressed. The secreted and purified protein does not contain the signal peptide (amino acid residues 1-22) and pro domain (residues 23-120), but contain protease (residues 121-321), CUB I (residues 322-434), CUB II (residues 435-546), EGF-like (residues 547-588) and CUB III (residues 591-703) domains. The pro domain is apparently cleaved by a furin-like proprotein convertase (4). The purified BMP-1/PCP is an active protease and its peptidase activity can be determined as described above. The purified BMP-1/PCP is predicted to possess procollagen C-proteinase activity because it contains the minimal domain structure required (5).

## References:

1. Wozney, J.M. *et al.* (1988) *Science* **242**:1528.
2. Bond, J.S. and R.J. Beynon (1995) *Protein Sci.* **4**:1247.
3. Steiglitz, B.M. *et al.* (2004) *J. Biol. Chem.* **279**:980.
4. Leighton, M. and K.E. Kadler (2003) *J. Biol. Chem.* **278**:18478.
5. Hartigan, N. *et al.* (2003) *J. Biol. Chem.* **278**:18045.