Recombinant Human PRDC/GREM2

Catalog Number: 8436-PR

DESCRIPTION

Source	*E. coli*-derived Arg22-Gln168 with an N-terminal Met Accession # Q9H772
N-terminal Sequence Analysis	Met
Structure / Form	Disulfide-linked homodimer
Predicted Molecular Mass	17 kDa

SPECIFICATIONS

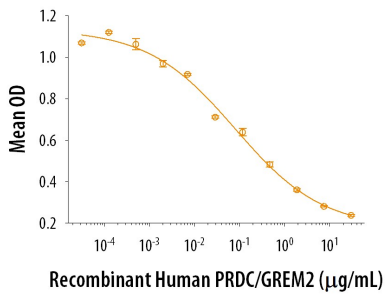
SDS-PAGE	18 kDa, reducing conditions
Activity	Measured by its ability to inhibit BMP-4-induced activity in MC3T3-E1 mouse preosteoblast cells. The ED_{50} for this effect is typically 0.03-0.12 µg/mL
Endotoxin Level	<0.10 EU per 1 µg of the protein by the LAL method.
Purity	>95%, by SDS-PAGE with silver staining.
Formulation	Lyophilized from a 0.2 µm filtered solution in HCl. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 500 µg/mL in 4 mM HCl
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. ● 3 months, -20 to -70 °C under sterile conditions after reconstitution.

DATA

Bioactivity



Recombinant Human PRDC/GREM2 (Catalog # 8436-PR) inhibits BMP-4-induced activity in MC3T3-E1 mouse preosteoblast cells. The ED_{50} for this effect is typically 0.03-0.12 µg/mL

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BACKGROUND

PRDC/GREM2 (Protein Related to DAN and Cerberus/Gremlin-2) is a secreted BMP antagonist belonging to the Cerberus/DAN (CAN) family. Similar to other CAN family members, PRDC/GREM2 has 6 conserved cysteine residues that form a cysteine knot, and two additional cysteine residues located in the loops of the cysteine knot (1-3). Mature human PRDC/GREM2 is synthesized as a 168 amino acid (aa) monomer. At the amino acid level, mature human PRDC/GREM2 shares 97% sequence identity with mature mouse PRDC/GREM2. PRDC/GREM2 is biologically active as a homodimer that assembles its subunits in a head-to-tail orientation. PRDC/GREM2 is up-regulated through Wnt/β-catenin signaling and has been shown to potently inhibit BMP-2, -4, and -7 (4-6). During early development PRDC/GREM2 is involved in tooth morphogenesis, osteogenesis, and neurogenesis (7-9). In the adult, PRDC/GREM2 is involved in bone repair and bone remodeling (10). PRDC/GREM2 has been detected in the adult ovary, brain, spleen, and colon (11). The biological activity of PRDC/GREM2 can be blocked by binding to heparin (4).

References:

1. Pearce, J.J. *et al.* (1999) Dev. Biol. **209**:98.
2. Kattamuri, C. *et al.* (2012) Protein Expr. Purif. **82**:389.
3. Minabe-Saegusa, C. *et al.* (1998) Dev. Growth Differ. **40**:343.
4. Nolan, K. *et al.* (2013) Structure **21**:1417.
5. Kattamuri, C. *et al.* (2012) J. Mol. Biol. **424**:313.
6. Im, J. *et al.* (2007) Biochem. Biophys. Res. Commun. **354**:296.
7. Vogel, P. *et al.* (2014) Vet. Pathol. [Epub ahead of print; PMID 24686385].
8. Kriebitz, N.N. *et al.* (2009) Dev. Biol. **336**:280.
9. Ideno, H. *et al.* (2009) Exp. Cell Res. **315**:474.
10. Dean, D.B. *et al.* (2010) J. Anat. **216**:625.
11. Sudo, S. *et al.* (2004) J. Biol. Chem. **279**:23134.

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