

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human Chordin-like 1/CHRDL1 in direct ELISAs and Western blots.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	Mouse myeloma cell line NS0-derived recombinant human Chordin-like 1/CHRDL1 Glu28-Cys457 Accession # NP_001137454
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details.

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 Chordin-Like 1/CHRDL1 (Catalog # 1808-NR)

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.
Stability & Storage	<p>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</p> <ul style="list-style-type: none"> ● 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

Chordin-like 1 (CHRDL1) also known as Chordin-like, ventroptin, and neuralin, is a secreted glycoprotein that has significant homology to chordin and acts as a bone morphogenetic protein (BMP) antagonist (1-3). Human Chordin-Like 1 cDNA encodes a 450 amino acid (aa) residue precursor protein with a putative 21 aa residue signal peptide. Chordin-Like 1 contains three internal cysteine-rich procollagen repeats (CRs) that are conserved in the spacing of their ten cysteines. The CRs of chordin, especially CR1 and CR3, have been shown to be the functional domains for BMP binding (1). The CR1 and CR3 of Chordin-Like 1 are most similar to CR3 of chordin (1). Chordin-Like 1 and chordin exhibit similar BMP inhibitory activity *in vivo* and directly interact with BMP-4 *in vitro* (1, 2). However, Chordin-Like 1 differs in its spatial and temporal expression from chordin. Mouse Chordin-Like 1 is detected in mesenchyme-derived cells such as the dermatome and limb bud, as well as chondrocytes of the developing skeleton later in development. In addition, Chordin-Like 1 is expressed embryonically in the gastrointestinal tract, kidney tubules, neural tube, CNS, cerebellum, derivatives of the neural crest cells, developing hair follicles, and the olfactory bulb where it is expressed in a gradient in the retina (1-3). Chordin-Like 1 is also expressed in adult marrow stromal cells. Human CHRDL1 and the long form of mouse CHRDL1 share 93% aa sequence identity.

Multiple forms of human Chordin-Like 1 containing small deletions or insertions (including an E insertion between P94 and D95, a GKKAK deletion (aa residues 318-322), and/or another E insertion between K322 and E323) have been described. Similar isoforms have also been reported for mouse Chordin-Like 1. In addition, a short form of mouse Chordin-Like 1 with a shortened variant C-terminus but with all 3 CR domains intact also exists (1). These multiple forms were attributed to alternative splicing and transcriptional termination sites within the coding region of Chordin-Like 1.

References:

1. Nakayama, N. *et al.* (2001) *Dev. Biol.* **232**:372.
2. Sakuta, H. *et al.* (2001) *Science* **293**:111.
3. Coffinier, C. *et al.* (2001) *Mech. Dev.* **100**:119.