

#### DESCRIPTION

**Source** Mouse myeloma cell line, NS0-derived  
Leu21-Thr429, with a C-terminal 6-His tag  
Accession # Q6WN34

**N-terminal Sequence Analysis** Leu21

**Predicted Molecular Mass** 46 kDa

#### SPECIFICATIONS

**SDS-PAGE** 44-65 kDa, reducing conditions

**Activity** Measured by its ability to inhibit BMP-4-induced activity in MC3T3-E1 mouse preosteoblast cells.  
The ED<sub>50</sub> for this effect is 0.4-2.4 µg/mL

**Endotoxin Level** <0.10 EU per 1 µg of the protein by the LAL method.

**Purity** >85%, by SDS-PAGE visualized with Silver Staining and quantitative densitometry by Coomassie® Blue 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.

#### BACKGROUND

Chordin-like 2 (CHL2, CHRD2, or BNF-1), is an approximately 55 kDa secreted glycoprotein that acts as a BMP antagonist. Mature human CHL2 contains three von Willebrand type C repeats and shares 73% amino acid sequence identity with mouse and rat CHL2 (1-3). Complex alternative splicing of human Chordin-like 2 generates multiple short isoforms as well as a nearly full length isoform with a substituted C-terminus (3). CHL2 is expressed in chondrocytes in developing joint cartilage (2, 4), osteoblasts, myotubes, brain, some carcinomas, and the genitourinary system (e.g. uterus, prostate, testis, bladder) (1-3). CHL2 binds to multiple TGF-β superfamily proteins including BMP-2, -4, -5, -6, -7, GDF-5, Activin A, and TSG (2, 3, 5, 6). It prevents the binding of BMPs to type 1 and type 2 receptors as well as BMP-induced cellular responses (2, 5). CHL2 reduces the rate of matrix deposition by mesenchymal cells, acting as a negative regulator of cartilage formation (2).

#### References:

1. Wu, I. and M.A. Moses (2003) *Gene* **311**:105.
2. Nakayama, N. *et al.* (2004) *Development* **131**:229.
3. Oren, A. *et al.* (2004) *Gene* **331**:17.
4. Lorda-Diez, C.I. *et al.* (2013) *PLoS One* **8**:e60423.
5. Fujisawa, T. *et al.* (2009) *Biochem. Biophys. Res. Commun.* **385**:215.
6. Zhang, J.L. *et al.* (2007) *J. Biol. Chem.* **282**:20002.