

## SOST Protein, Rat, Recombinant (His)

### General Information

Synonyms:	sclerostin
Protein Construction:	A DNA sequence encoding the rat SOST (NP_085073.1) (Met 1-Tyr 213) was expressed, fused with a polyhistidine tag at the C-terminus. Predicted N terminal: Gln 24
Species:	Rat
Expression Host:	HEK293 Cells
Accession:	A6HJF6
Molecular Weight:	23 kDa (predicted); 33 kDa (reducing condition, due to glycosylation)

### QC Testing

Biological Activity:	Measured by its ability to inhibit Wnt3a induced alkaline phosphatase production by C3H10 T1/2 cells. The ED50 for this effect is typically 0.1-0.5 µg/mL.
Purity:	> 97 % as determined by SDS-PAGE
Endotoxin:	< 1.0 EU/µg of the protein as determined by the LAL method.
Formulation:	Lyophilized from a solution filtered through a 0.22 µm filter, containing PBS, pH 7.4. Typically, a mixture containing 5% to 8% trehalose, mannitol, and 0.01% Tween 80 is incorporated as a protective agent before lyophilization.

### Preparation and Storage

**Reconstitution:**  
Reconstituted with sterile deionized water to 0.15 mg/mL. Reconstitution conditions may vary depending on the lot.

**Stability & Storage:**

It is recommended to store recombinant proteins at -20°C to -80°C for future use. Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

**Shipping:**

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

### Protein Background

Sclerostin, the protein product of the SOST gene, is a potent inhibitor of bone formation. Sclerostin protein is widely expressed at low levels with highest levels in bone, cartilage, kidney, liver, bone marrow and primary osteoblasts differentiated for 21 days, and was originally identified as an important regulator of bone remodeling, homeostasis, and links bone resorption and bone apposition. Recent studies have revealed that Sclerostin protein inhibits the bone growth probably by binding to the extracellular domain of the Wnt coreceptors

LRP5 and LRP6 and disrupting Wnt-induced Frizzled-LRP complex formation.

Reference

Bellido T. (2006) Downregulation of SOST/sclerostin by PTH: a novel mechanism of hormonal control of bone formation mediated by osteocytes. *J Musculoskelet Neuronal Interact.* 6(4): 358-9.

van Bezooijen RL, et al. (2007) SOST expression is restricted to the great arteries during embryonic and neonatal cardiovascular development. *Dev Dyn.* 236(2): 606-12.

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