3050 Spruce Street, St. Louis, MO 63103 USA
Tel: (800) 521-8956 (314) 771-5765 Fax: (800) 325-5052 (314) 771-5757
email: techservice@sial.com sigma-aldrich.com

Product Information

SILu™Prot SOST, Sclerostin human recombinant, expressed in HEK 293 cells, SIL MS Protein Standard, ^{13}C and ^{15}N-labeled

Catalog Number **MSST0047**
Storage Temperature –20 °C

Product Description

SILu™Prot SOST is a recombinant, stable isotope-labeled human SOST which incorporates [$^{13}C_6$, $^{15}N_4$]-Arginine and [$^{13}C_6$, $^{15}N_2$]-Lysine. Expressed in human 293 cells, it is designed to be used as an internal standard for bioanalysis of SOST in mass spectrometry. SILu™Prot SOST is a protein of 201 amino acids (including an N-terminal polyhistidine tag), with a calculated molecular mass of 22.8 kDa.

Sclerostin is a secreted Wnt signaling antagonist produced almost exclusively by osteocytes. It can selectively inhibit Wnt/β-catenin, suppressing the activity of osteoblasts as well as the viability of osteoblasts and osteocytes.[1] Lower sclerostin levels are associated with lower bone mineral content and bone.[1] It was demonstrated that greater total limb bone mineral content was significantly associated with greater circulating levels of sclerostin.[2] In addition, circulating sclerostin is a biomarker of osteoporosis severity in long-term, chronic paraplegia.[2] Serum sclerostin was associated significantly, independently, and positively with bone mineral density of both cortical and cancellous bone. Sclerostin is considered to be one of the factors associated with chronic kidney disease-mineral and bone disorder in hemodialysis patients.[3]

Each vial contains 10 μg of SILu™Prot SOST standard, lyophilized from a solution of phosphate buffered saline. Vial content was determined by the Bradford method using BSA as a calibrator.

Purity: ≥95% (SDS-PAGE)

Heavy amino acids incorporation efficiency: ≥98% (MS)

UniProt: Q9BQB4

Sequence Information:
The N-terminal polyhistidine tag is italicized.

*HHHHHHHHGGQQG*WQAFKNDATEIIPELGEYPEPPP
ELENNKTMNRAENGGRPPHHPFETKDVSEYSCRELH
FTRYVTDGPCRSAKPVTELVCSGQCGPARLLPNAIG
RGKWWRPSGPDFRCIPDRYRAQRVQLLCPGGEAPR
ARKVRLVASCKCKRLTRFHNQSELKDFGTEAARPQK
GRKPRPRARSAKANQAELENAY

Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Safety Data Sheet for information regarding hazards and safe handling practices.

Preparation Instructions

Briefly centrifuge the vial before opening. It is recommended to reconstitute the protein in sterile ultrapure water to a final concentration of 100 μg/mL.

Storage/Stability

Store the lyophilized product at –20 °C. The product is stable for at least 2 years as supplied.

After reconstitution, it is recommended to store the protein in working aliquots at –20 °C.

References

1. Morse, L.R. et al., Sclerostin: a candidate biomarker of SCI-induced osteoporosis. *Osteoporos Int*., **24**, 961–968 (2013).
2. Morse, L.R. et al., Association between sclerostin and bone density in chronic spinal cord injury. *J. Bone Miner. Res*., **27**, 352–359 (2012).
3. Ishimura, E. et al., Relationship between serum sclerostin, bone metabolism markers, and bone mineral density in maintenance hemodialysis patients. *J. Clin. Endocrinol. Metab*., **99**, 4315-20 (2014).

Legal Information

Sold under license from DuPont, U.S. Patent No. 7,396,688.

This product is licensed under U.S. Patent No. 7,396,688 and foreign counterparts from E. I. du Pont de Nemours and Company. The purchase of this product conveys to the buyer the nontransferable right to use the purchased amount of the product for research and development only, including services for a third party for consideration. The buyer cannot sell or otherwise transfer this product, its components or materials made using this product or its components to a third party. Information about licenses for excluded uses is available from: E. I. du Pont de Nemours and Company; Attn: Associate Director, Commercial Development; DuPont Experimental Station E268; 200 Powdermill Rd.; Wilmington, DE 19803; 1-877-881-9787 (voice), 1-302-695-1437 (fax), licensing@dupont.com.

NA,JK,KR,MAM 12/16-1