

DESCRIPTION

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| Source | Mouse myeloma cell line, NS0-derived Thr18-Ala247, with a C-terminal 6-His tag Accession # P52823-1 |
| N-terminal Sequence Analysis | Thr18 |
| Structure / Form | Disulfide-linked homodimer |
| Predicted Molecular Mass | 27 kDa |

SPECIFICATIONS

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| SDS-PAGE | 26-43 kDa, reducing conditions |
| Activity | Measured by its ability to inhibit Wnt-3a-induced alkaline phosphatase production by MC3T3-E1 mouse preosteoblast cells. The ED ₅₀ for this effect is 20-120 ng/mL in the presence of 10 ng/mL of Recombinant Mouse Wnt-3a (Catalog # 1324-WN) . |
| Endotoxin Level | <0.10 EU per 1 µg of the protein by the LAL method. |
| Purity | >95%, by SDS-PAGE visualized with Silver Staining and quantitative densitometry by Coomassie® Blue Staining. |
| Formulation | Lyophilized from a 0.2 µm filtered solution in PBS. See Certificate of Analysis for details. |

PREPARATION AND STORAGE

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

BACKGROUND

Stanniocalcin 1 (STC-1) is a homodimeric glycoprotein hormone that is involved in calcium and phosphate homeostasis. It was originally identified in bony fishes, where elevation of calcium in serum causes the release of STC from the endocrine glands called the corpuscles of Stannius (1-3). In contrast to fish where expression is mainly in the corpuscles of Stannius, the STC-1 gene in mammals is widely expressed in tissues including thyroid, ovary, prostate, adrenal gland, muscle, intestine, kidney, heart and lung (4). Human STC-1 protein consists of a 16 amino acid (aa) propeptide region and a 214 aa STC-1 chain. The amino acid sequence of human mature STC-1 is 36% identical to that of human STC-2. STC-1 is highly homologous with mouse, sharing 95% amino acid identity. STC-1 inhibits the breakdown of PAPP-A (5), protects cancer cells from apoptosis (4), reduces tumor size of liver cancers (6), promotes osteoblast differentiation (7) and inhibits longitudinal bone growth directly at the growth plate (8). It is also a biomarker of brain and lung cancer progression (7, 8).

References:

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