Recombinant Mouse sFRP-4

Catalog Number: 9806-SF

DESCRIPTION

Source	Mouse myeloma cell line, NS0-derived Ala22-Ser351 Accession # Q9Z1N6
N-terminal Sequence Analysis	Ala22
Predicted Molecular Mass	38 kDa

SPECIFICATIONS

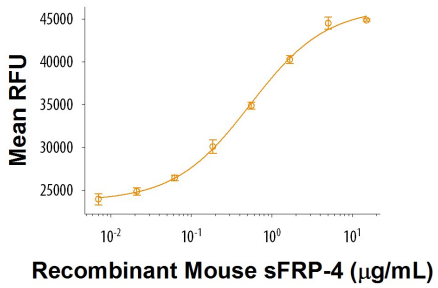
SDS-PAGE	47-63 kDa, reducing conditions
Activity	Measured by its ability to activate Wnt induced TCF reporter activity in HEK293 human embryonic kidney cells. The ED_{50} for this effect is 0.2-1.2 ug/mL in the presence of 5 ng/mL of Recombinant Mouse Wnt-3a (Catalog # 1324-WN).
Endotoxin Level	<0.10 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

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.** ● 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.

DATA

Bioactivity



Recombinant Mouse sFRP-4 (Catalog # 9806-SF) activates Wnt induced TCF reporter activity in HEK293 human embryonic kidney cells. The ED_{50} for this effect is 0.2-1.2 µg/mL in the presence of 5 ng/mL Recombinant Mouse Wnt-3a (Catalog # 1324-WN).

BACKGROUND

Secreted Frizzled Related Protein-4 (sFRP-4), also known as DDC-4, FrpAP, frpHE and FrzB-2, belongs to a family of Wnt-binding proteins with homology to the ligand-binding domain of the Frizzled receptors (1, 2). The sFRP proteins are approximately 30-35 kDa in size and contain an N-terminal Frizzled-like domain with 10 conserved cysteines and a Netrin-like C-terminal domain (1-3). Of all the sFRPs, sFRP-4 is most closely related to sFRP-3 (1). Mature mouse sFRP-4 shares 92% and 96% amino acid (aa) sequence identity with human and rat sFRP-4, respectively. sFRP-4 is expressed in brain, kidney, lung, ovary, prostate, mammary gland, and endometrium (1, 2). This protein shows complex functions with respect to cell survival: it is up-regulated with apoptosis during ovulation (3), regulates apoptosis in chondrocytes (4), and promotes apoptosis in mammary glands when expressed in transgenic mice (5). On the other hand, sFRP-4 can also act to enhance growth as it is up-regulated in endometrial and breast carcinomas (6, 7). Since it is not detected in other carcinomas such as the ovary, colon, and pancreas, its role in cancer is likely to be tissue dependent (6). In addition, sFRP-4 is characterized as a circulating phosphaturic factor expressed by tumors associated with osteomalacia that antagonizes renal Wnt signaling (8).

References:

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7. Wong, S.C. *et al.* (2002) J. Pathol. **196**:145.
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