Recombinant Human sFRP-1

Catalog Number: 5396-SF

DESCRIPTION

Source	Mouse myeloma cell line, NS0-derived Ser32-Lys314 Accession # AAB70793
N-terminal Sequence Analysis	Ser32, Phe39 (minor) & Asp42 (minor)
Predicted Molecular Mass	32.6 kDa

SPECIFICATIONS

SDS-PAGE	33-40 kDa, reducing conditions
Activity	Measured by its ability to inhibit proliferation of HeLa human cervical epithelial carcinoma cells. Ko, L. *et al.* (2002) Exp. Cell Res. **280**:280. The ED_{50} for this effect is typically 0.15-0.75 µg/mL.
Endotoxin Level	<0.01 EU per 1 µg of the protein by the LAL method.
Purity	>95%, by SDS-PAGE under reducing conditions and visualized by silver stain.
Formulation	Lyophilized from a 0.2 µm filtered solution in Phosphate and NaCl. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 250 µg/mL in sterile 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.

BACKGROUND

Secreted Frizzled Related Proteins (sFRPs) are a family of secreted, soluble vertebrate glycoproteins which contain homology to the Wnt-binding domain of the Frizzled (Fz) family of transmembrane receptors. sFRPs are approximately 30-35 kDa in size and are comprised of 3 domains: a signal sequence; an N-terminal Fz cysteine-rich domain (CRD) with 10 conserved cysteines; and a C-terminal heparin-binding region with weak homology to Netrin. The Fz CRD mediates Wnt-binding and is present in all Fz and sFRP family members (1).

sFRP-1, also known as secreted apoptosis-related protein 2 (SARP-2), FRP and FrzA, is expressed in the embryonic kidney, eye, brain, teeth, salivary gland and small intestine, most often at sites of epithelial-mesenchyme interaction (5). Expression in the adult animal is strong in the eye, kidney, and heart and also prevalent in the brain and lung (2, 5). sFRP-1 was first characterized as a protein that enhances the sensitivity of cells to apoptotic stimuli (3) and as an antagonist of Wnt signaling in *Xenopus* embryos (4). As such, it is considered to be a potential tumor suppressor in both breast (6) and cervical carcinomas (7). sFRP-1 is also known to be expressed by the majority of malignant gliomas (8) and may contribute to the development of uterine leiomyomas (9). This suggests that the activity of sFRP-1 is context dependent. sFRP-1 has diverse activities, from inducing angiogenesis (10) in a variety of *in vivo* models to helping regulate Wnt-4 signaling (with sFRP-2) in renal organogenesis (11). Mouse and human sFRP-1 proteins share 94% amino acid identity (1).

References:

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