# Recombinant Mouse sFRP-2

Catalog Number: 1169-FR/CF

## DESCRIPTION

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| **Source** | Mouse myeloma cell line, NS0-derived<br>Leu25-Cys295, with a C-terminal 6-His tag<br>Accession # AAB70795 |
| **N-terminal Sequence Analysis** | Leu25 |
| **Predicted Molecular Mass** | 31.6 kDa |

## SPECIFICATIONS

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| **SDS-PAGE** | 35-40 kDa, reducing conditions |
| **Activity** | Measured by its ability to compete with Frizzled-1 for binding to biotinylated Wnt-3a.<br>The $IC_{50}$ value is 0.7-3.5 nM, under conditions in which Recombinant Mouse (rm) Frizzled-1 Fc Chimera (Catalog # 1120-FZ) is present at 2.1 nM, and biotinylated rmWnt-3a concentration is 2.7 nM. |
| **Endotoxin Level** | <0.10 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 PBS. See Certificate of Analysis for details. |

## PREPARATION AND STORAGE

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| **Reconstitution** | Reconstitute at 100 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.**<br>● 12 months from date of receipt, -20 to -70 °C as supplied.<br>● 1 month, 2 to 8 °C under sterile conditions after reconstitution.<br>● 3 months, -20 to -70 °C under sterile conditions after reconstitution. |

## BACKGROUND

Secreted Frizzled Related Protein-2 (sFRP-2) belongs to a family of Wnt-binding proteins with homology to the ligand-binding domain of the Frizzled transmembrane Wnt receptors. 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, 2). Mature mouse sFRP-2, also known as SARP-1, SDF-5, and FRP-2, shares 99% aa sequence identity with human and rat sFRP-2 (3, 4). sFRP-2 is widely expressed during embryogenesis and in the adult in tissues including the eye, heart, lung, colon, intestine, smooth muscle, pancreas, prostate, testis, kidney, brain, teeth and joints, craniofacial mesenchyme, and preadipocytes (3 - 6). Depending on the context, sFRP-2 can exert either positive or negative effects on Wnt signaling (7 - 9). It also inhibits BMP-induced effects [Alfaro 35646, Oshima 3160]. sFRP-2 can be incorporated into the extracellular matrix through interactions with Fibronectin and Integrin α5β1 (11). sFRP-2 plays a variety of roles during tissue morphogenesis including inhibition of the planar cell polarity pathway and myoblast and osteoblast differentiation (8, 10, 12, 13). sFRP-2 is also expressed in multiple myeloma and glioma in which it promotes tumorigenicity (10, 14). At physiological concentrations sFRP-2 enhances BMP-1 mediated proteolysis of Pro-Collagen I, whereas at higher concentrations it inhibits BMP-1 activity (15, 16). This difference is significant considering that sFRP-2 is up-regulated in fibrotic areas of the heart following myocardial infarction (15, 16). Elevated levels of sFRP-2 then promote the recovery of cardiac function by reducing collagen deposition, remodeling, and calcification and by promoting the engraftment of mesenchymal stem cells into the heart (8, 15).

**References:**


1. Bovolenta, P. *et al.* (2008) J. Cell Sci. **121**:737.
2. van Amerongen, R. and R. Nusse (2009) Development **136**:3205.
3. Rattner, A. *et al.* (1997) Proc. Natl. Acad. Sci. **94**:2859.
4. Melkonyan, H.S. *et al.* (1997) Proc. Natl. Acad. Sci. **94**:13636.
5. Hu, E. *et al.* (1998) Biochem. Biophys. Res. Commun. **247**:287.
6. Leimeister, C. *et al.* (1998) Mech. Dev. **75**:29.
7. Galli, L.M. *et al.* (2006) Dev. Dyn. **235**:681.
8. Alfaro, M.P. *et al.* (2010) J. Biol. Chem. **285**:35645.
9. von Marschall, Z. and L.W. Fisher (2010) Biochem. Biophys. Res. Commun. **400**:299.
10. Oshima, T. *et al.* (2005) Blood **106**:3160.
11. Lee, J.-L. *et al.* (2004) J. Biol. Chem. **279**:14602.
12. Sugiyama, Y. *et al.* (2010) Dev. Biol. **338**:193.
13. Descamps, S. *et al.* (2008) Cell Tissue Res. **332**:299.
14. Roth, W. *et al.* (2000) Oncogene **19**:4210.
15. He, W. *et al.* (2010) Proc. Natl. Acad. Sci. **107**:21110.
16. Kobayashi, K. *et al.* (2009) Nat. Cell Biol. **11**:46.




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