

DESCRIPTION

Source Mouse myeloma cell line, NS0-derived
Gly29-Trp379, with a C-terminal 10-His tag
Accession # AAD25402

N-terminal Sequence Analysis Gly29

Predicted Molecular Mass 39.8 kDa

SPECIFICATIONS

SDS-PAGE 50 kDa, reducing conditions

Activity Measured by its ability to inhibit Wnt-3a-induced alkaline phosphatase production by MC3T3-E1 mouse preosteoblast cells. The ED₅₀ for this effect is 0.3-1.5 µg/mL in the presence of 10 ng/mL of Wnt-3a.

Endotoxin Level <0.01 EU per 1 µg of the protein by the LAL method.

Purity >97%, by SDS-PAGE under reducing conditions and visualized by silver stain.

Formulation Lyophilized from a 0.2 µm filtered solution in Acetic Acid, NaCl, PEG3350 and CHAPS. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution Reconstitute at 200 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

WIF (Wnt Inhibitory Factor) is a secreted protein that binds to Wnt proteins and inhibits their activity. The protein is synthesized as a 379 amino acid (AA) molecule that contains an N-terminal signal sequence, 150 AA WIF domain, 5 EGF-like repeats, and a hydrophilic domain at the carboxy terminus (1). *In situ* hybridization analysis from the frog, *Xenopus laevis*, and zebrafish indicate that the message is highly expressed in presomitic mesoderm, the notochord, anterior regions of the brain, branchial arches, nasal placodes, and otic vesicles (1). WIF inhibits secondary axis induction by Wnts and promotes secondary axis induction by Chordin in *Xenopus* embryos (1). *In vitro*, WIF binds to *Drosophila* Wingless and *Xenopus* Wnt8 proteins (1). WIF-1 is implicated as an early event tumor suppressor in cancers of the prostate, breast, lung and bladder (2). However, WIF-1's role in carcinogenesis may not be that simple since in other cancer types, such as colon adenocarcinoma, WIF facilitates tumorigenesis (3). Human WIF-1 shares 94% and 82% amino acid identity with mouse and frog, respectively.

References:

1. Hsieh, J-C. *et al.* (1999) *Nature* **398**:431.
2. Wissmann, C. *et al.* (2003) *J. Pathol* **201**:204.
3. Cebrat, M. *et al.* (2004) *Cancer Lett.* **206**:107.