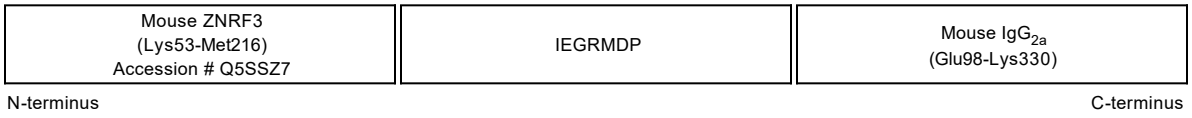
Recombinant Mouse ZNRF3 Fc Chimera

Catalog Number: 8328-RF

DESCRIPTION

Source

Mouse myeloma cell line, NS0-derived



N-terminal Sequence Analysis	Lys53
Structure / Form	Disulfide-linked homodimer
Predicted Molecular Mass	45 kDa

SPECIFICATIONS

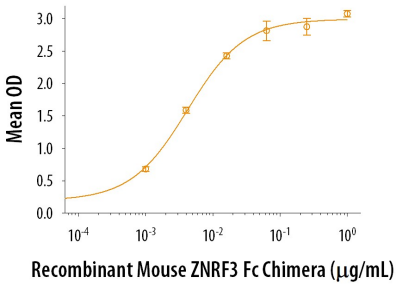
SDS-PAGE	51-60 kDa, reducing conditions
Activity	Measured by its binding ability in a functional ELISA. When Recombinant Mouse R-Spondin 3 (Catalog # 4120-RS) is coated at 0.25 µg/ml, Recombinant Mouse ZNRF3 Fc Chimera binds with an apparent K_d <0.2 nM.
Endotoxin Level	<0.10 EU per 1 µg of the protein by the LAL method.
Purity	>95%, by SDS-PAGE with silver staining.
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 100 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.

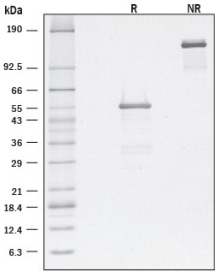
DATA

Binding Activity



ZNRF3 Binds R-Spondin 3. When Recombinant Mouse R-Spondin 3 (Catalog # 4120-RS) is coated onto a microplate well at 0.25 µg/mL, Recombinant Mouse ZNRF3 Fc Chimera (Catalog # 8328-RF) binds with an apparent K_d <0.2 nM.

SDS-PAGE



1 µg/lane of Recombinant Mouse ZNRF3 (Catalog # 8328-RF) was resolved with SDS-PAGE under reducing (R) and non-reducing (NR) conditions and visualized by silver staining, showing bands at 54.7 and 138 kDa, respectively.

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Recombinant Mouse ZNRF3 Fc Chimera

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BACKGROUND

ZNRF3 (zinc/RING finger protein 3) is a member of the ZNRF3 family of type 1 transmembrane ubiquitin ligases (1). Mature mouse ZNRF3 consists of a 163 amino acid (aa) extracellular domain (ECD) with a protease associated (PA) domain fold, a short transmembrane segment, and a 675 aa cytoplasmic tail that contains a RING-type zinc finger with E3 ubiquitin ligase activity. Within the ECD, mouse and human ZNRF3 share 98% sequence identity. ZNRF3 is co-expressed on the cell surface with the homologous protein RNF43. Both proteins serve to inhibit the Wnt signaling pathway through the ubiquitination of LRP6 and a majority of the Frizzled family of Wnt receptors (1, 4, 6). ZNRF3 ubiquitin ligase activity is regulated jointly by R-Spondin and its cell surface receptors, Lgr4, 5, and 6 (2). The R-Spondin-Lgr complex binds to and facilitates the removal of the ZNRF3 from the plasma membrane, resulting in an enhancement of Wnt signaling (3, 4). Conversely, ZNRF3 can antagonize R-Spondin enhanced Wnt signaling (3, 5). ZNRF3 is highly expressed in crypt stem cells of the intestine where it modulates Wnt-induced cell proliferation to control the turnover of intestinal epithelial cells (6). ZNRF3 expression is down-regulated in gastric carcinomas, and ZNRF3 mutations are linked to carcinomas of the gastric tract, pancreas, liver, and ovary (7-10).

References:

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