Recombinant Mouse LRP-6 C-Terminal Fragment Fc Chimera

Catalog Number: 9954-LR

DESCRIPTION

Source

Chinese Hamster Ovary cell line, CHO-derived mouse LRP-6 protein

Mouse LRP-6 (Val629-Gly1244) Accession # NP_032540	IEGRMDP	Mouse IgG_{2a} (Glu98-Lys330)

N-terminus C-terminus

N-terminal Sequence Analysis: Val629

Structure / Form: Disulfide-linked homodimer

Predicted Molecular Mass: 97 kDa

SPECIFICATIONS

SDS-PAGE: 97-118 kDa, reducing conditions

Activity: Measured by its binding ability in a functional ELISA.
In a Goat Anti-Mouse IgG Fc Antibody (Catalog # G-202-C) coated plate, Recombinant Mouse LRP-6 C-Terminal Fragment Fc Chimera binds Recombinant Mouse Dkk-1 (Catalog # 5897-DK) with an ED_{50} of 3-30 ng/mL.

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.

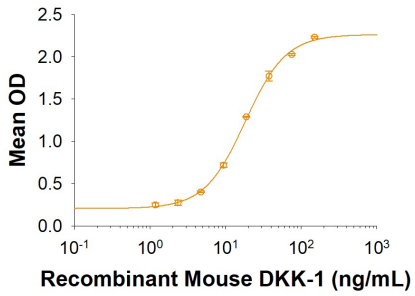
Shipping: The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.

Stability & Storage

- 12 months from date of receipt, ≤ -20 °C as supplied.
- 1 month, 2 to 8 °C under sterile conditions after reconstitution.
- 3 months, ≤ -20 °C under sterile conditions after reconstitution.

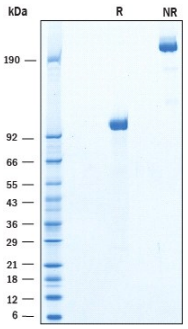
DATA

Binding Activity



In a Goat Anti-Mouse IgG Fc (Catalog # G-202-C) coated plate, Recombinant Mouse LRP-6 C-Terminal Fragment Fc Chimera (Catalog # 9954-LR) binds Recombinant Mouse DKK-1 (Catalog # 5897-DK) with an ED_{50} of 3-30 ng/mL.

SDS-PAGE



2 µg/lane of Recombinant Mouse LRP-6 was resolved with SDS-PAGE under reducing (R) and non-reducing (NR) conditions and visualized by Coomassie® blue staining, showing bands at 97-118 kDa and 200-230 kDa, respectively.

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BACKGROUND

The low-density lipoprotein (LDL) receptor-related protein 6 (LRP-6), along with LRP-5, constitute a distinct subgroup of the LDL receptor family (1). Both LRP-5 and LRP-6 are type I transmembrane proteins that function as Wnt co-receptors with Frizzled proteins and mediate the down-regulation of GSK-3 activity and the initiation of the canonical Wnt/beta-catenin signaling cascade (1, 2). Mouse LRP-6 consists of a 19 amino acid (aa) signal sequence, a 1351 aa extracellular domain (ECD), a 23 aa transmembrane domain, and a 20 aa cytoplasmic domain (3). The LRP-6 ECD is composed of four distinct YWTD beta -propeller (BP) motifs followed by three LDLR type A repeats (4). The first two LRP-6 BP motifs bind Wnt-1, -2, -2b, -6, -8a, -9a, -9b, and -10b, while the third and fourth BP motifs bind Wnt-3a (5-10). This product includes the third and fourth BP motifs of mouse LRP-6 (aa 629-1244) that share 98% aa sequence identity with the third and fourth BP motifs of rat and human LRP-6. Dkk-1, a known antagonist of Wnt signaling, interacts with LRP-6 as a bipartite inhibitor, binding the first and third BP motifs of LRP-6 simultaneously (8, 11). Mice lacking LRP-6 die at birth with a truncation of the axial skeleton, limb defects, microphthalmia, and malformation of the urogenital system (2). Additionally, LRP-6 may be essential for osteoblast differentiation during bone remodeling and, along with LRP-5, is required for postnatal bone development (12, 13).

References:

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