

DESCRIPTION

Source Mouse myeloma cell line, NS0-derived human Endorepellin/Perlecan protein
Arg3684-Ser4391 (Ser4004Thr), with a C-terminal 10-His tag
Accession # P98160

N-terminal Sequence Analysis Arg3684

Predicted Molecular Mass 76.7 kDa

SPECIFICATIONS

SDS-PAGE 90-95 kDa, reducing conditions

Activity Measured by its binding ability in a functional ELISA.
When Recombinant Human VEGF R1/Flt-1 (Catalog # 321-FL) is coated at 5 µg/mL (100 µL/well), the concentration of Recombinant Human Endorepellin/Perlecan that produces 50% of the optimal binding response is approximately 0.75-6 µg/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 with Trehalose. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution Reconstitute at 200 µg/mL in PBS.

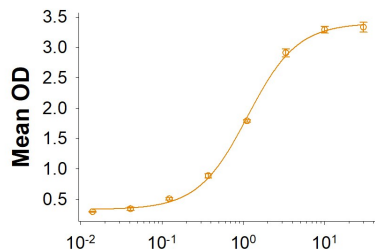
Shipping The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.

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



When Recombinant Human VEGFR1/Flt-1 Fc Chimera (Catalog # 321-FL) is immobilized at 5 µg/mL (100 µL/well), Recombinant Human Endorepellin/Perlecan (Catalog # 2364-ER) binds with an ED₅₀ of 0.75-6 µg/mL.

Recombinant Human Endorepellin (µg/mL)

BACKGROUND

Endorepellin is an 80 kDa glycoprotein that is derived from the C-terminal end of the heparan sulfate proteoglycan, Perlecan. Perlecan itself is an approximately 850 kDa modular protein that contains multiple LDLR, EGF-like, Laminin-like, and immunoglobulin-like domains. Mouse Perlecan lacks several of the Ig-like domains found in the human protein (1-3). Endorepellin corresponds to domain V of Perlecan and consists of three Laminin G domains separated by four EGF-like domains (4). Human Endorepellin shares 89% amino acid sequence identity with mouse Endorepellin. A 26 kDa fragment of Endorepellin is known as LG3 and contains the third Laminin G-like domain of Endorepellin. LG3 can be released by Cathepsin L or BMP-1/Tolloid family mediated cleavage (4-6). Endorepellin binds to Integrin $\alpha 2/\beta 1$, preventing the integrin-dependent adhesion of vascular endothelial cells (EC) to fibronectin and collagen I (7, 8). In contrast, this interaction enhances platelet adhesion to collagen as well as platelet aggregation and activation (9). Endorepellin additionally binds to VEGF R1 and VEGF R2 on EC (10). Its binding to VEGF R2 and Integrin $\alpha 2/\beta 1$ on EC induces the association and down-regulation of both proteins, followed by the inhibition of EC migration, tubulogenesis, secretion of VEGF, and the activation of multiple receptors involved in angiogenesis (4, 7, 8, 10, 11). Endorepellin also binds to Endostatin, resulting in a reduction of the anti-angiogenic activity of both proteins (4). It preferentially interacts with tumor vasculature and inhibits tumor growth and angiogenesis (8, 12).

References:

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