Recombinant Mouse Endorepellin/Perlecan His-tag

Catalog Number: 9987-ER

DESCRIPTION

Source	Chinese Hamster Ovary cell line, CHO-derived mouse Endorepellin/Perlecan protein Glu3683-Ser4383, with a C-terminal 6-His tag Accession # NP_032331.2
N-terminal Sequence Analysis	Glu3683
Predicted Molecular Mass	75.8 kDa

SPECIFICATIONS

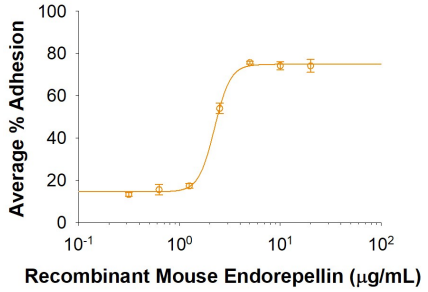
SDS-PAGE	85-95 kDa, reducing conditions
Activity	Measured by the ability of the immobilized protein to support the adhesion of SVEC4-10 mouse vascular endothelial cells. The ED_{50} for this effect is 0.75-4.5 µg/mL.
Endotoxin Level	<0.10 EU per 1 µg of the protein by the LAL method.
Purity	>95%, by SDS-PAGE visualized with Silver Staining and quantitative densitometry by Coomassie® Blue Staining.
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 300 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.

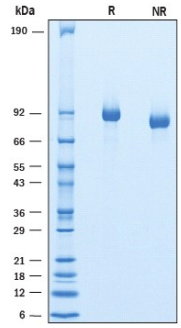
DATA

Bioactivity



Immobilized Recombinant Mouse Endorepellin supports the adhesion of SVEC4-10 mouse vascular endothelial cells. The ED_{50} for this effect is 0.75-4.5 µg/mL.

SDS-PAGE



2 µg/lane of Recombinant Mouse Endorepellin/Perlecan was resolved with SDS-PAGE under reducing (R) and non-reducing (NR) conditions and visualized by Coomassie® Blue staining, showing bands at 85-95 kDa.

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BACKGROUND

Endorepellin is an 80 kDa glycoprotein derived from the C-terminal end of the heparan sulfate proteoglycan Perlecan. Human Perlecan is an approximately 850 kDa basement membrane heparan sulfate proteoglycan containing multiple LDLR, EGF-like, Laminin-like, and immunoglobulin-like domains. Mouse Perlecan lacks several of the EGF, Laminin-like and Ig-like domains found in the human protein (1-3). Mouse Endorepellin, also termed Domain V (DV) of Perlecan, consists of three Laminin G domains separated by a single EGF-like domain. Mouse Endorepellin shares 89% amino acid sequence identity with human Endorepellin. Endorepellin has been shown to broadly inhibit angiogenesis, including endothelial cell migration, collagen-induced capillary morphogenesis, and blood vessel growth (4). Endostatin, an inhibitor of Endorepellin, has been shown to bind Endorepellin directly and block its anti-angiogenic activity (4). Endorepellin can be further processed into a 26 kDa fragment, termed LG3, containing the third Laminin G-like domain of Endorepellin. LG3 possesses anti-angiogenic activity of its own and its release is mediated by either Cathepsin L or BMP-1/Tolloid family cleavage (4-7). 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). Additionally, Endorepellin 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, resulting in a reduction in EC migration and overall antiangiogenic activity (4, 7-10). Endorepellin has been shown to disrupt tumor vasculature and inhibit tumor growth, invasion and angiogenesis (8, 11), and it has recently been proposed as a potential stroke therapy by helping with brain repair following injury (12).

References:

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