

Active Recombinant Human MIA protein

Cat. No. MIA-254H Lot. No. (See product label)

SPECIFICATION

Product Overview Recombinant Human MIA (Gly25-Gln131) fused with Met at N-terminal was expressed in E. coli.

Species Human

Source E.coli

ProteinLength 25-131 a.a.

Description

Melanoma Inhibiting Activity (MIA), also known as cartilage-derived retinoic acid-sensitive protein (CD-RAP), is an approximately 11-15 kDa protein that is secreted as a noncovalent homodimer and is structurally related to OTOR/Otoraplin and MIA-2. Mature human MIA contains a SH3 domain and shares 90% and 92% amino acid sequence identity with mouse and rat MIA, respectively. Alternative splicing generates a short isoform that lacks the SH3 domain. MIA is widely expressed in developing and regenerating cartilage and in the endothelium and parenchyma of developing lungs. MIA disrupts cellular interactions with the extracellular matrix by binding to Integrins alpha 4 beta 1 and alpha 5 beta 1. It competes with Fibronectin fragments for Integrin binding and interferes with Integrin signaling. It also functions as a chemoattractant for mesenchymal stem cells and enhances their BMP-2 and TGF-beta 3 induced differentiation into chondrocytes [tscheid]. MIA-deficient mice exhibit delayed chondrocyte differentiation but enhanced chondrocyte proliferation and cartilage repair. MIA is up-regulated in several cancers including malignant melanoma, lung adenoma, metastatic oral squamous cell carcinoma,

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neurofibromatosis type 1 (NF-1)-related tumors, and pancreatic cancer. It is selectively secreted and internalized from the trailing pole of migrating cells. This polarization reduces cellular attachment to the matrix at the trailing pole and contributes to directional tumor cell migration.

Predicted N Terminal	Met, Gly25
Form	Lyophilized from a 0.2 µm filtered solution in PBS and Trehalose.
Bio-activity	Measured by its binding ability in a functional ELISA. When Recombinant Human Fibronectin Fragment 4 is immobilized at 1 µg/mL, 100 µL/well, Recombinant Human MIA binds with a typical ED50 of 1-6 µg/mL.
Molecular Mass	Predicted Molecular Mass: 12 kDa SDS-PAGE: 10 kDa, reducing conditions
Endotoxin	<0.1 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.
Storage	Use a manual defrost freezer and avoid repeated freeze-thaw cycles. 12 months from date of receipt, -20 to -70 centigrade as supplied. 1 month, 2 to 8 centigrade under sterile conditions after reconstitution. 3 months, -20 to -70 centigrade under sterile conditions after reconstitution.
Reconstitution	Reconstitute at 400 µg/mL in PBS.

GENE INFORMATION

Gene Name [MIA melanoma inhibitory activity \[Homo sapiens \]](#)

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Official Symbol	MIA
Synonyms	MIA; melanoma inhibitory activity; melanoma-derived growth regulatory protein; CD RAP; CD-RAP;
Gene ID	8190
mRNA Refseq	NM_001202553
Protein Refseq	NP_001189482
MIM	601340
UniProt ID	Q16674

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