

Recombinant Human Melanoma Inhibitory Activity Protein (MIA)

Certificate of Analysis and Data Sheet

➤ Source: E.Coli	➤ Catalog No. CTK-310
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➤ **Background:**

MIA acts as a potent tumor cell growth inhibitor for malignant melanoma cells and some other neuroectodermal tumors, including gliomas, in an autocrine fashion. In a study of human melanoma cell lines with different metastatic capacity MIA mRNA expression appeared to be inversely correlated with pigmentation. MIA has been shown to represent a very sensitive and specific serum marker for systemic malignant melanoma that might be useful for staging of primary melanomas, detection of progression from localized to metastatic disease during follow-up, and monitoring therapy of advanced melanomas.

➤ **Description :**

Recombinant Human MIA produced in E.Coli is a single, non-glycosylated, polypeptide chain consisting of 108 amino having a total molecular mass of 12237 Dalton. The Melanoma Inhibitory protein (MIA) was identified as an inhibitor of in vitro growth of malignant melanoma cells. The protein contains a SH3 domain.

Human Melanoma Inhibitory protein is purified by proprietary chromatographic techniques.

➤ **Physical Appearance:**

Sterile Filtered White lyophilized (freeze-dried) powder.

➤ **Formulation:**

Recombinant MIA was lyophilized from a concentrated (1mg/ml) solution containing 20mM Potassium-phosphate pH=7 and 150mM potassium chloride.

➤ **Solubility:**

It is recommended to reconstitute the lyophilized Human MIA in sterile 18MO-cm H₂O not less than 100µg/ml, which can then be further diluted to other aqueous solutions.

➤ **Stability:**

Lyophilized Recombinant MIA although stable at room temperature for 3 weeks, should be stored desiccated below -18° C. Upon reconstitution Recombinant MIA should be stored at 4° C between 2-7 days and for future use below -18° C. For long-term storage it is recommended to add a carrier protein (0.1% HSA or BSA).

Please avoid freeze-thaw cycles.

➤ **Purity:**

Greater than 95.0% as determined by:

- (a) Analysis by RP-HPLC.
- (b) Anion-exchange FPLC.
- (c) Analysis by reducing and non-reducing SDS-PAGE Silver Stained gel.

➤ **Amino acid sequence:**

Agrees with the sequence of native human MIA with an addition N-terminal Methionine residue.

MGPMPLADRLCADQECSSHPISMAVALQDYMAPDCR
FLTIHRGQVVYVFLKGRGRFLWGGSVQGDYYGDLAAR
LGYFPSSIVREDQTLKVDVKTDKWDYFCQ

➤ **Dimers and aggregates:**

Less than 1% as determined by silver-stained SDS-PAGE gel analysis.

➤ **Protein content:**

Protein quantitation was carried out by two independent methods:

1. UV spectroscopy at 280 nm using the absorption coefficient of 19300 M⁻¹cm⁻¹.
2. Analysis by RP-HPLC, using a calibrated solution of MIA as a Reference Standard.

➤ **Endotoxin:**

Less than 0.1 ng/µg (IEU/µg) of Human MIA.

➤ **Usage:**

This material is offered for research, laboratory or further evaluation purposes.

