

MTSS1 Protein, Human, Recombinant (aa1-250, His & MBP)

General Information

Synonyms:	metastasis suppressor 1;MIMB;MIM;MIMA
Protein Construction:	A DNA sequence encoding the human MTSS1 (EAW92073.1) N-terminal fragment (Met 1-Ser 250) was fused with an N-terminal polyhistidine-tagged MBP tag at the N-terminus. Predicted N terminal: Met
Species:	Human
Expression Host:	E. coli
Accession:	EAW92073.1
Molecular Weight:	71.8 kDa (predicted); 66 kDa (reducing conditions)

QC Testing

Biological Activity:	Activity testing is in progress. It is theoretically active, but we cannot guarantee it. If you require protein activity, we recommend choosing the eukaryotic expression version first.
Purity:	> 80 % as determined by SDS-PAGE
Endotoxin:	Please contact us for more information.
Formulation:	Lyophilized from a solution filtered through a 0.22 µm filter, containing PBS, pH 7.4. Typically, a mixture containing 5% to 8% trehalose, mannitol, and 0.01% Tween 80 is incorporated as a protective agent before lyophilization.

Preparation and Storage

Reconstitution:
A Certificate of Analysis (CoA) containing reconstitution instructions is included with the products. Please refer to the CoA for detailed information.

Stability & Storage:

It is recommended to store recombinant proteins at -20°C to -80°C for future use. Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

Shipping:

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

Protein Background

MTSS1 (Metastasis suppressor 1), also known as Missing in metastasis (MIM), is a tissue-specific regulator of plasma membrane dynamics. MTSS1 is well described for its function as a metastasis suppressor gene and is expressed in a variety of tissues. MTSS1 might be involved in shaping neuronal membranes in vivo. MTSS1 deforms phosphoinositide-rich membranes through its I-BAR domain and interacts with actin monomers through its WH2

domain. MTSS1/MIM was first identified as a metastasis suppressor missing in metastatic bladder carcinoma cell lines. MTSS1 is a prognostic indicator of disease-free survival in breast cancer patients and demonstrates the ability to play a role in governing the metastatic nature of breast cancer cells. MTSS1 may serve as a useful biomarker for the prediction of the outcome of gastric cancer. The down-regulation of MTSS1 that may be caused by DNA methylation was also observed in many other types of cancer. Recent work proposed that MIM also potentiates Sonic hedgehog (Shh)-induced gene expression. MTSS1 is a multiple functional molecular and has an important role in development, carcinogenesis, and metastasis.

Reference

Hayn-Leichsenring G, et al. (2011) Cellular distribution of metastasis suppressor 1 and the shape of cell bodies are temporarily altered in Engrailed-2 overexpressing cerebellar Purkinje cells. *Neuroscience*. 189: 68-78.

Xie F, et al. (2011) MTSS1: a multifunctional protein and its role in cancer invasion and metastasis. *Front Biosci (Schol Ed)*. 3: 621-31.

Saarikangas J, et al. (2011) Missing-in-metastasis MIM/MTSS1 promotes actin assembly at intercellular junctions and is required for integrity of kidney epithelia. *J Cell Sci*. 2124(Pt 8): 1245-55.

Parr C, et al. (2009) Metastasis suppressor 1 (MTSS1) demonstrates prognostic value and anti-metastatic properties in breast cancer. *Eur J Cancer*. 45(9): 1673-83.

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