

## DESCRIPTION

**Source** Mouse myeloma cell line, NS0-derived  
Val484-Gly711  
Accession # AAA59872

**N-terminal Sequence Analysis** Val484

**Predicted Molecular Mass** 25 kDa

## SPECIFICATIONS

**SDS-PAGE** 30 kDa, reducing conditions

**Activity** Measured by its binding ability in a functional ELISA.  
Immobilized rhMSP  $\beta$  chain at 5  $\mu$ g/mL (100  $\mu$ L/well) can bind rhMSP R with a linear range of 2.34-150 ng/mL.

**Endotoxin Level** <0.10 EU per 1  $\mu$ g of the protein by the LAL method.

**Purity** >97%, by SDS-PAGE under reducing conditions and visualized by silver stain.

**Formulation** Lyophilized from a 0.2  $\mu$ m filtered solution in Acetonitrile and TFA with BSA as a carrier protein. See Certificate of Analysis for details.

## PREPARATION AND STORAGE

**Reconstitution** Reconstitute at 100  $\mu$ g/mL in sterile PBS containing at least 0.1% human or bovine serum albumin.

**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.

## BACKGROUND

Macrophage stimulating protein (MSP), also known as HGF-like protein, and scatter factor-2, is a member of the HGF family of growth factors (1). MSP is secreted as an inactive single chain precursor (pro-MSP) that contains a PAN/APPLE-like domain, four kringle domains, and a peptidase S1 domain which lacks enzymatic activity (2). Human MSP shares 79% amino acid (aa) sequence identity with mouse MSP and 44% aa sequence identity with human HGF. Pro-MSP is secreted by hepatocytes under the positive and negative control of CBP in complex with either HNF-4 or RAR, respectively (3). Circulating pro-MSP is proteolytically cleaved in response to tissue injury to yield biologically active disulfide linked heterodimers consisting of a 45 - 62 kDa alpha and a 25 - 35 kDa beta chain (4, 5). Pro-MSP can be activated by MT-SP1, a transmembrane protease that is expressed on macrophages and is upregulated in many cancers (6). Heterodimeric MSP as well as the isolated beta chain bind to MSP R/Ron with high-affinity, although only heterodimeric MSP can induce receptor dimerization and signaling (7, 8). MSP induces macrophage and keratinocyte proliferation and osteoclast activation (9, 10). It also inhibits LPS- or IFN-induced iNOS and IL-12 expression by macrophages and prevents apoptosis of epithelial cells separated from the ECM (11, 12).

## References:

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