

DESCRIPTION

Source	Mouse myeloma cell line, NS0-derived human MSP/MST1 protein Gln19-Gly711 Accession # AAA59872
N-terminal Sequence Analysis	No results obtained, Gln19 predicted & Val484
Structure / Form	Disulfide-linked heterodimer
Predicted Molecular Mass	78.5 kDa (MSP α / β); 53.3 kDa (α chain), 25.2 kDa (β chain)

SPECIFICATIONS

SDS-PAGE	81 kDa, 62 kDa and 30 kDa, reducing conditions
Activity	Measured by its ability to activate MSP R/Ron in MDA-MB-453 or T47D human breast cancer cells. 80 ng/mL of the recombinant human MSP significantly induces phosphorylation of MSP R/Ron measured by DuoSet IC human phospho-MSP R/Ron kit (Catalog # DYC1947). Measured by its binding ability in a functional ELISA. When Recombinant Human MSP/Ron Protein (Catalog #1947-MS) is present at 100 ng/mL (100 μ g/mL), The concentration of Recombinant Human MSP/MST1 that produces 50% optimal binding response is found to be 8-40 ng/mL.
Endotoxin Level	<1.0 EU per 1 μ 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 μ m filtered solution in PBS with BSA as a carrier protein. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 100 μ 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. <ul style="list-style-type: none"> • 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% 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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