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OSM

Catalog # PVGS1269

Product Information

Primary Accession	P13725
Species	Human
Sequence	Ala26-Arg252, expressed with an N-terminal Met
Purity	> 95% as analyzed by SDS-PAGE
Endotoxin Level	
Expression System	E. coli
Formulation	Lyophilized after extensive dialysis against PBS.
Reconstitution	It is recommended that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. Reconstitute the lyophilized powder in ddH_2O up to 100 g/ml.
Storage & Stability	Upon receiving, this product remains stable for up to 6 months at lower than -70°C. Upon reconstitution, the product should be stable for up to 1 week at 4°C or up to 3 months at -20°C. For long term storage it is recommended that a carrier protein (example 0.1% BSA) be added. Avoid repeated freeze-thaw cycles.

Additional Information

Gene ID	5008
Other Names	Oncostatin-M, OSM, OSM
Target Background	Oncostatin M (OSM) is a multifunctional cytokine, and belongs to Interleukin-6 (IL-6) subfamily, including IL-11, leukemia inhibitory factor (LIF), ciliary neurotropic factor, cardiotrophin-1, and novel neurotropin-1. In vivo, OSM is secreted from activated T cells, monocytes, neutrophils, and endothelial cells. OSM is related to LIF, and share a receptor with LIF in human. Human OSM can bind to gp130 and recruit OSM Receptor β or LIF Receptor β to form a ternary complex. OSM stimulates the growth of different types of cells, including megakaryocytes, fibroblasts, vascular endothelial cells, and T cells. On the other hand, OSM inhibits the proliferation of several cancer cell lines, such as solid tissue tumor cells, lung cancer cells, melanoma cells, and breast cancer cells.

Protein Information

Name	OSM (HGNC:8506)

Function	Functions as a cytokine that uses both type I OSM receptor (heterodimers composed of LIFR and IL6ST) and type II OSM receptor (heterodimers composed of OSMR and IL6ST) (PubMed:10997905, PubMed:39532904, PubMed:8999038). Functionally, regulates many processes including cell proliferation, cell differentiation, cytokine production (PubMed:10997905, PubMed:1542792, PubMed:1542793, PubMed:1717982, PubMed:2779549, PubMed:3540948). Mechanistically, low affinity ligand binding to IL6ST/gp130, induces heterodimerization with LIFR or OSMR, activating JAK tyrosine kinases (JAK1 or JAK2 and to a lesser extent TYK2) bound to their intracellular domains (PubMed:9188471). These kinases subsequently phosphorylate IL6ST/gp130 and LIFR or OSMR (PubMed:8999038). The tyrosine phosphorylated signaling receptors serve in turn as docking sites for recruitment and activation of STAT3 (PubMed:9188471). The type II OSM complex receptor is also able in addition to STAT3 to recruit STAT5B (PubMed:9188471). Moreover, the type II OSM complex receptor recruits SHC1 through OSMR in a JAK1 mediated phosphotyrosine-dependent manner, leading to SHC1 association with GRB2 and downstream activation of the Ras/Raf/MAPK pathway (PubMed:11016927).
Cellular Location	Secreted

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