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OSM

Catalog # PVGS1361

Product Information

Primary Accession	Q65Z15
Species	Rat
Sequence	MKRGCSSSSP KLLSQLKSQA NITGNTASLL EPYILHQNLN TLTLRAACTE HPVAFPSEDM LRQLSKPDFL STVHATLGRV WHQLGAFRQQ FPKIQDFPEL ERARQNIQGI RNNVYCMARL LHPPLEIPEP TQADSGTSRP TTTAPGIFQI KIDSCRFLWG YHRFMGSVGR VFEEWGDGSR RSRRHSPLWA WLKGDHRIRP SRSSQSAMLR SLVPR
Purity	> 95% as analyzed by SDS-PAGE and HPLC.
Endotoxin Level	
Formulation	Lyophilized after extensive dialysis against PBS.
Reconstitution	Reconstituted in ddH_2O or PBS at 100 □g/ml.

Additional Information

Gene ID	289747
Other Names	Oncostatin-M, OSM, Osm
Target Background	Oncostatin M (OSM) is a multifunctional cytokine, and belongs to Interleukin-6 (IL-6) subfamily, which also includes 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 shares 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. OSM inhibits the proliferation of several cancer cell lines, such as solid tissue tumor cells, lung cancer cells, melanoma cells, and breast cancer cells. Recombinant Rat Oncostatin M (rrOSM) produced in E. coli is a single non-glycosylated polypeptide chain containing 215 amino acids. A fully biologically active molecule, rrOSM has a molecular mass of 24.5 kDa analyzed by reducing SDS-PAGE and is obtained by proprietary chromatographic techniques at .

Protein Information

Name	Osm {ECO:0000312|RGD:1585012}

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) (By similarity). Functionally, regulates many processes including cell proliferation, cell differentiation, cytokine production (PubMed:15743783). 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. These kinases subsequently phosphorylate IL6ST/gp130 and LIFR or OSMR. The tyrosine phosphorylated signaling receptors serve in turn as docking sites for recruitment and activation of STAT3. The type II OSM complex receptor is also able in addition to STAT3 to recruit STAT5B. 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 (By similarity).
Cellular Location	Secreted {ECO:0000250|UniProtKB:P13725}.
Tissue Location	Widely expressed. Expressed at higher levels in liver, skin and spleen.

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