Human Oncostatin (M 195aa, glycosylated, HEK, animal-free)

Synonyms: OSM, MGC20461, Oncostatin M.

PLEASE NOTE: ALWAYS CENTRIFUGE VIAL BEFORE OPENING

Size	Order#	Lot#	Expiry Date
10 µg	1784.955.010		
100 µg	1784.955.100		
500 µg	1784.955.500		
1 mg	1784.955.199		

Please enquire for bulk quantities and other vial sizes.

Description

Animal-free recombinant human Oncostatin M (OSM) derived from HEK293 Cells is a glycosylated protein with a calculated theoretical molecular weight of 22kDa. Due to glycosylation it migrates with an apparent Mass of 32kDA under reduced and 28kDa non-reduced conditions. Human Oncostatin M has been reported to be active on murine cells. The human OSM gene encodes for a 252 amino acid polypeptide, containing 25 amino acid signal sequence for secretion and a 227 precursor protein. Proteolytic processing of this precursor removes an 18 amino acid C-terminal peptide and generates the mature Oncostatin M OSM form. Oncostatin M (OSM) is a growth and differentiation factor involved in the regulation of neurogenesis, osteogenesis, and hematopoiesis. It is produced by activated T cells, monocytes, and Kaposi's sarcoma cells, exhibiting both stimulatory and inhibitory effects on cell proliferation. Oncostatin M (OSM) stimulates the proliferation of fibroblasts, smooth muscle cells, and Kaposi's sarcoma cells while inhibiting the growth of certain normal and tumor cell lines. It promotes the release of other cytokines such as IL-6, GM-CSF, and G-CSF from endothelial cells and enhances the expression of low-density lipoprotein receptors in hepatoma cells. Oncostatin M (OSM) shares structural and functional characteristics with LIF, IL-6, and CNTF, belonging to the IL-6 family of cytokines. Recent research has revealed additional roles for Oncostatin M (OSM) in various biological processes. It has been found to play a significant role in the pathogenesis of rheumatoid arthritis (RA). OSM levels are elevated in the synovial fluid of RA patients and contribute to the disease's progression through multiple pathways. It activates signaling cascades involving JAK/STAT and MAPK pathways in RA fibroblast-like synoviocytes, affecting the expression of pathogenic genes such as IL-6 and IL-8. Furthermore, Oncostatin M (OSM) has been shown to influence bone metabolism by promoting both osteoblast and osteoclast differentiation. In the context of arthritis, excessive OSM can contribute to pathological bone destruction.

- **Biological Activity** ≥ 5 x 10^6 units/mg
- **Source** HEK
- **Purity** ≥ 95 % (SDS-PAGE, RP-HPLC)
- **Endotoxin Level** 0.1 ng/µg (≤ 1 EU/µg)
- **Buffer** PBS (1 x) pH -7.4*
- **Physical State** Sterile filtered, lyophilized

Biological Activity

The ED_{50} of ≤ 1.5 ng/ml was determined by the dose-dependent stimulation of the proliferation of human TF-1 cells in direct comparison with the WHO-Standard (93/564). It corresponds to a specific activity of ≥ 3 x 10^7 IU/mg, respectively ≥ 6.6 x 10^5 units/mg

Reconstitution

We recommend a quick spin followed by reconstitution in sterile PBS (1 x) to a concentration of at least 200 µg/ml, which can then be further diluted to other aqueous solutions. Do not vortex.

*The Buffer may vary depending on the Lot #. Please contact our technical support if you have specific requirements.

ORDERING
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Stability

Lyophilized Oncostatin M although stable at room temperature for up to 3 weeks, should be stored desiccated below 18°C. Upon reconstitution Oncostatin should be stored at 4°C between 2-7 days and for future use below 18°C. For long term storage it is recommended to add a carrier protein (0.1 % HSA, order number: 2835.955.xyz or 2835.958.xyz, or BSA, order number: 2835.919.xyz). Please avoid repeated freeze-thaw cycles.

Amino Acid Sequence

AAIGSCSKEY RVLLGQLQKQ TDLMQDTSRL LDPYIRIQGL DVPKLREHCR ERPGAFPSEE TLRGLGRRGF
LQTLNATLGC VLHRLADLEQ RLPKAQDLER SGLNIEDLEK LQMARPNILG LRNNIYCMAQ LLDNSDTAEP
TKAGRGASQP PTPTPASDAF QRKLEGCRFL HGYHRFMHSV GRVFSKWGES PNRSR

Usage: For research use only. Not for use in diagnostic or therapeutic procedures. Not for human use.

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