

Product Information

Oncostatin M human

BioReagent, recombinant, expressed in *E. coli*, suitable for cell culture

Catalog Number **O9635**

Storage temperature $-20\text{ }^{\circ}\text{C}$

CAS RN 106956-32-5

Synonym: OSM

Product Description

Recombinant, human Oncostatin M (OSM) is produced from a DNA sequence encoding the mature human OSM (196 amino acid residues), expressed in *E. coli*. The protein is purified by sequential chromatography. It has a predicted molecular mass of ~ 22 kDa. Oncostatin M, LIF, G-CSF, IL-6, and ciliary neurotrophic factor (CNTF) are structurally related members of the same cytokine family sharing similarities in their primary amino acid sequences, predicted secondary structure, and receptor components.¹

Oncostatin M is a growth-regulating cytokine that affects a number of tumor and normal cells. It was first identified by its ability to inhibit the growth of A375 melanoma cells and other human tumor cells, but not inhibit the growth of normal human fibroblasts.² Oncostatin M acts synergistically with TGF- $\beta 1$ to inhibit the proliferation of A375 melanoma cells.² It is secreted by activated T lymphocytes and macrophages, and affects a wide variety of normal and tumor cells. It induces an increase in LDL receptor expression and LDL uptake by hepatoma cells.³ OSM will induce cultured human endothelial cells to increase IL-6 production.⁴ It activates synovial fibroblast-like cells to produce urokinase type plasminogen activator.⁵

Reagent

Supplied as a lyophilized powder from a $0.2\text{ }\mu\text{m}$ filtered solution in 10 mM acetic acid, containing 50 μg of bovine serum albumin per 1 μg of cytokine.

Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

Storage/Stability

Prior to reconstitution, store at $-20\text{ }^{\circ}\text{C}$. After reconstitution, the protein may be stored at $2\text{--}8\text{ }^{\circ}\text{C}$ for a maximum of one month. For extended storage, freeze in working aliquots at $-70\text{ }^{\circ}\text{C}$ or $-20\text{ }^{\circ}\text{C}$. Repeated freezing and thawing is not recommended.

Preparation Instructions

Reconstitute the contents of the vial using $0.2\text{ }\mu\text{m}$ filtered phosphate buffered saline containing 0.1% HSA or BSA to a concentration not less than 10 $\mu\text{g}/\text{mL}$.

Product Profile

The biological activity is measured in a cell proliferation assay using the human erythroleukemic cell line, TF-1.⁶ The EC_{50} is defined as the effective concentration of growth factor that elicits a 50% increase in cell growth in a cell based bioassay.

Purity: $\geq 97\%$ (SDS-PAGE)

Endotoxin: ≥ 1 EU per 1 μg of the cytokine.

References

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2. Brown, T.J., *et al.*, Purification and characterization of cytostatic lymphokines produced by activated human T lymphocytes. Synergistic antiproliferative activity of transforming growth factor beta 1, interferon-gamma, and oncostatin M for human melanoma cells. *J. Immunol.* **139**, 2977-2983 (1987).
3. Grove, R.I., *et al.*, Oncostatin M up-regulates low density lipoprotein receptors in HepG2 cells by a novel mechanism. *J. Biol. Chem.* **266**, 18194-18199 (1991).
4. Brown, T.J., *et al.*, Regulation of IL-6 expression by oncostatin M. *J. Immunol.* **147**, 2175-2180 (1991).

5. Hamilton, J.A., *et al.*, Oncostatin M stimulates urokinase-type plasminogen activator activity in human synovial fibroblasts. *Biochem. Biophys. Res. Commun.* **180**, 652-659 (1991).
6. Kitamura, T., *et al.*, Establishment and characterisation of a unique human cell line which proliferates dependently on GM-CSF, IL3 and erythropoietin. *J. Cell Physiol.*, **140**, 323-334 (1989).
7. Rose, T.M., and Bruce, A.G., Oncostatin M is a member of a cytokine family that includes leukemia-inhibitory factor, granulocyte colony-stimulating factor, and interleukin 6. *Proc. Natl. Acad. Sci. USA* **88**, 8641-8645 (1991).

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