Miltenyi Biotec

Human Oncostatin M IS
research grade

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1. Description

Products Human Oncostatin M IS, research grade.

Recombinant human oncostatin M IS (improved sequence).

Content in µg	Order no.
10	130-114-939
25	130-114-942

Biological activity The ED_{50} is ≤0.13 ng/mL corresponding to an activity of ≥8×10^6 U/mg.

▲ **Note:** The ED_{50} is determined by proliferation assay using TF-1 cells according to Kitamura *et al.*[1] The proliferation assay was calibrated with the reference reagent for human Oncostatin M (NIBSC code 93/564) provided by the WHO/ National Institute for Biological Standards and Control.

Primary structure Single, non-glycosylated polypeptide chain (195 amino acid residues) and a proprietary amino acid substitution.

Molecular mass 22.0 kDa.

Source Produced in *E. coli*.

Product format Lyophilized from a filtered (0.2 µm) buffer solution.

Stabilizer Mannitol and trehalose.

Purity >95% as determined by SDS-PAGE analysis.

Endotoxin level Low endotoxin (<1.0 EU/µg cytokine) as determined by Limulus Amebocyte Lysate (LAL) assay.

Storage Lyophilized Human Oncostatin M IS, research grade should be stored at –20 °C. The expiration date is indicated on the vial label. Upon reconstitution aliquots should be stored at –20 °C or below. Avoid repeated freeze-thaw cycles.

Reconstitution It is recommended to reconstitute lyophilized Human Oncostatin M IS, research grade with deionized sterile-filtered water to a final concentration of 0.1–1.0 mg/mL in a minimal volume of 100 µL. Further dilutions should be prepared with 0.1% bovine serum albumin (BSA) or human serum albumin (HSA) in phosphate-buffered saline.

1.1 Background information

Oncostatin M, also known as OSM, is a member of the interleukin 6 (IL-6) related cytokine subfamily that includes IL-6, interleukin 11 (IL-11), leukemia inhibitory factor (LIF), and granulocyte colony-stimulating factor (G-CSF). It is a growth and differentiation factor expressed by activated T cells and monocytes that is involved in hematopoiesis, osteogenesis, and neurogenesis. Oncostatin M induces the expression of cytokines like G-CSF and GM-CSF by endothelial cells. It inhibits the growth of a number of tumor cell lines and promotes the growth of human fibroblasts and smooth muscle cells. Human Oncostatin M is active on murine cells.

1.2 Applications

Human Oncostatin M IS can be used for a variety of applications including:

- Study of hematopoiesis, osteogenesis, and neurogenesis.
- Expansion of human fibroblasts.

Optimal concentration for a specific application should be determined by a dose-response experiment.

2. References

1. Kitamura, T. *et al.* (1989) Establishment and characterization of a unique human cell line that proliferates dependently on GM-CSF, IL-3, or erythropoietin. J. Cell. Physiol. 140: 323–334.

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