Sterile

#5371

Mouse Oncostatin M (mOSM)

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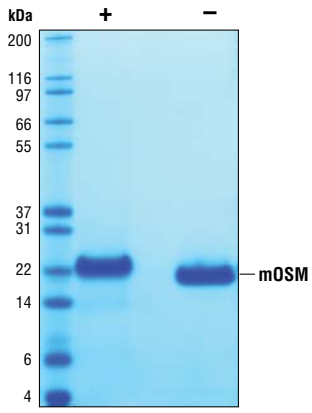
For Research Use Only. Not For Use In Diagnostic Procedures.

Source: Recombinant mouse OSM (mOSM) Ala24-Arg206 (Accession #NP_001013383) was produced in *E. coli* at Cell Signaling Technology.

Molecular Characterization: Recombinant mOSM does not have Met on the amino terminus and has a calculated MW of 20,750. DTT-reduced and non-reduced protein migrate as 21 kDa polypeptides. The expected amino-terminal ANRGC of recombinant mOSM was verified by amino acid sequencing.

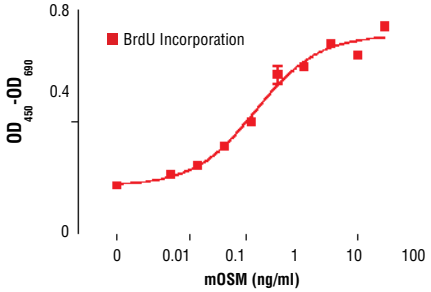
Endotoxin: Less than 0.01 ng endotoxin/1 μg mOSM.

Purity: >98% as determined by SDS-PAGE of 6 μg reduced (+) and non-reduced (-) recombinant mOSM. All lots are greater than 98% pure.

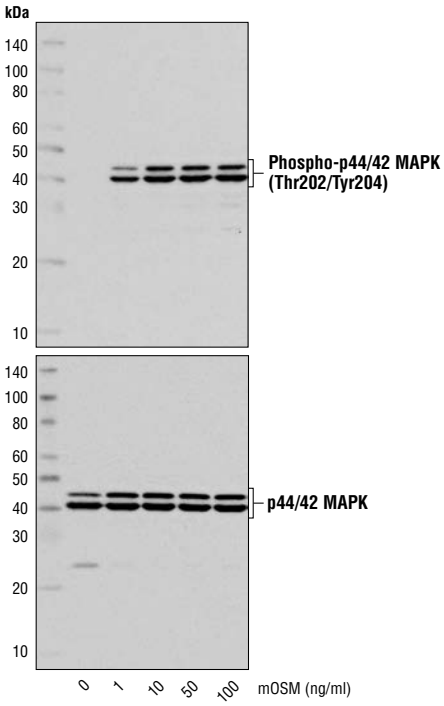


The purity of recombinant mOSM was determined by SDS-PAGE of 6 μg reduced (+) and non-reduced (-) recombinant mOSM and staining overnight with Coomassie Blue.

Bioactivity: The bioactivity of recombinant mOSM was determined in a NIH/3T3 cell proliferation assay. The ED_{50} of each lot is between 0.10-0.40 ng/ml.



The proliferation of NIH/3T3 cells treated with increasing concentrations of mOSM was assessed. After 24 hr treatment, cells were labeled with BrdU for 4 hrs. BrdU incorporation was determined by ELISA and the OD_{450}-OD_{690} was determined.



Western blot analysis of extracts from MEF cells untreated or treated with mOSM for 15 minutes, using Phospho-p44/42 MAPK (Erk1/2) (Thr202/Tyr204) (D13.14.4E) XP™ Rabbit mAb #4370 (upper) and p44/42 MAPK (Erk1/2) (137F5) Rabbit mAb #4695 (lower).

Formulation: With carrier: Lyophilized from a 0.22 μm filtered solution of PBS, pH 7.2 containing 20 μg BSA per 1 μg mOSM.

Carrier free: Lyophilized from a 0.22 μm filtered solution of PBS, pH 7.2.

Reconstitution:
With carrier: Add sterile PBS or PBS containing 1% bovine or human serum albumin or 5-10% FBS to a final mOSM concentration of greater than 50 μg/ml. Solubilize for 30 minutes at room temperature with occasional gentle vortexing.

Carrier free: Add sterile PBS or PBS containing protein to minimize absorption of mOSM to surfaces. Solubilize for 30 minutes at room temperature with occasional gentle vortexing. Stock mOSM should be greater than 50 μg/ml.

Storage: Stable in lyophilized state at -20°C for 1 year after receipt. Sterile stock solutions reconstituted with carrier protein are stable at 4°C for 2 months and at -20°C for 6 months. Avoid repeated freeze-thaw cycles.

Maintain sterility. Storage at -20°C should be in a manual defrost freezer.

Applications: Optimal concentration for the desired application should be determined by the user.

Background: Oncostatin M (OSM) is a member of the IL-6 family of cytokines that is produced primarily by activated T cells and macrophages (1,2). OSM induces fibroblast proliferation, inhibits tumor cell proliferation, and plays a role in immune regulation (2,3). Mouse OSM binds to the OSM receptor β (OSMRβ) which forms a heteromeric complex with the common IL-6 family receptor subunit, gp130 (4). In contrast, human OSM binds to two distinct receptor complexes, the OSMRβ/gp130 and LIFRβ/gp130 complexes (4). The ability of human OSM to bind to two receptors may explain the overlapping and distinct activities of human OSM and LIF. OSM induces the activation the JAK2, STAT3, and ERK1/2 pathways (5).

Background References:

(1) Malik, N. et al. (1989) *Mol Cell Biol* 9, 2847-53.

(2) Silver, J.S. and Hunter, C.A. (2010) *J Leukoc Biol* , .

(3) Underhill-Day, N. and Heath, J.K. (2006) *Cancer Res* 66, 10891-901.

(4) Ichihara, M. et al. (1997) *Blood* 90, 165-73.

(5) Hintzen, C. et al. (2008) *J Immunol* 181, 7341-9.