Supporting Information

**TABLE S1:** Primers used to generate the OSM chimeras and point mutants.

Primer Name	Sequence (5' -> 3')
Cytokine cloning in pCAG-GS vector	
PacI hOSM fw	AAAGGGAAATTAATTAAGCTAGCGCATCGCCACCATGGGGGTACTGCTCACACAGAGGACG
PacI hLIF fw	AAAGGGAAATTAATTAAGCTAGCGCATCGCCACCATGAAGGTCTTGGCGGCAGGAGTTGTG
AscI HisTag rev	TTTCCCTTTGGCGCGCCGCGGCCGCTATCAGTGGTGGTGGTGGTGGTGCTCGAG
Mouse OSM sequence optimization and mouse/human chimeras	
mOSM SeqOpt PacI fw	AAAGGGAAATTAATTAAGCTAGCGCATCGCCACCATGCAGACGAGATTGCTGCGCACCCTG
mOSM SeqOpt AscI rev	TTTCCCTTTGGCGCGCCGCGGCCGCTATCAATGATGATGGTGGTGATGCTCCAGCCT
mOSM WT 1	ATGCAGACGAGATTGCTGCGC
mOSM WT 2	GTCAGGCTCAGCAGGGTGCGCAGCAATCTCGTCTG
mOSM WT 3	ACCCTGCTGAGCCTGACCCTGTCACTGCTTATCCTTTCT
mOSM WT 4	CGATTGGCAAGGGCCATAGAAAGGATAAGCAGTGACAGG
mOSM WT 5	ATGGCCCTTGCCAATCGCGGGTGCAGCAACAGC
mOSM WT 6	GCTCAACAGTTGGCTGCTGCTGTTGCTGCACCCG
mOSM WT 7	AGCAGCCAACTGTTGAGCCAGCTTCAAAACCAGGCCA
mOSM WT 8	GGTGTTGCCGGTCAGGTTGGCCTGGTTTTGAAGCTG
mOSM WT 9	ACCTGACCGGCAACACCGAGAGCCTTCTTGAGCCCT
mOSM WT 10	GGTTTTGCAGGCGGATGTAGGGCTCAAGAAGGCTCTC
mOSM WT 11	ACATCCGCCTGCAAAACCTCAACACCCCCGACCTT
mOSM WT 12	GTGCACGCAGCGCGAAGGTCGGGGGTGTTGA
mOSM WT 13	CGCGCTGCGTGCACCCAGCACAGCGTGGCT
mOSM WT 14	GGTGTCCTCGCTAGGGAAAGCCACGCTGTGCTGG
mOSM WT 15	TTCCCTAGCGAGGACACCCTGAGGCAGTTGAGCAAGC
mOSM WT 16	CGGTGGACAGGAAGTGTGGCTTGCTCAACTGCCTCAG
mOSM WT 17	CACACTTCCTGTCCACCGTCTACACCACCCTGGACC
mOSM WT 18	TCGAGCTGGTACAGCACTCGGTCCAGGGTGGTGTAGA
mOSM WT 19	GAGTGCTGTACCAGCTCGACGCGCTCCGGCAGAA
mOSM WT 20	GCGGGGGTCTTCAGAAACTTCTGCCGGAGCGCG
mOSM WT 21	GTTTCTGAAGACCCCCGCATTCCCCAAGTTGGACAGC
mOSM WT 22	CAGGATGTTGTGCCTGGCGCTGTCCAACTTGGGGAAT
mOSM WT 23	GCCAGGCACAACATCCTGGGCATCAGGAACAACGTCT
mOSM WT 24	AGAAGCCTAGCCATGCAGAAGACGTTGTTCCTGATGCC
mOSM WT 25	TCTGCATGGCTAGGCTTCTGAACCACAGCCTTGAGATCC

mOSM WT 26	GGTTTGCGTGGGTTCGGGGATCTCAAGGCTGTGGTTC
mOSM WT 27	CCGAACCCACGCAAACCGACAGTGGCGCGAGCA
mOSM WT 28	CGGGCGTAGTGGTAGACCTGCTCGCGCCACTGTC
mOSM WT 29	GGTCTACCACTACGCCCGACGTGTTTAATACCAAGATAGGC
mOSM WT 30	CCACAGAAAGCCGCAAGAGCCTATCTTGGTATTAAACACGT
mOSM WT 31	TCTTGCGGCTTTCTGTGGGGTTACCATCGGTTCATGGG
mOSM WT 32	ACACTCTCCCGACGCTGCCCATGAACCGATGGTAACC
mOSM WT 33	CAGCGTCGGGAGAGTGTTCAGGGAGTGGGACGATG
mOSM WT 34	CCTGCTCCTCGTGGAGCCATCGTCCCACTCCCTGA
mOSM WT 35	GCTCCACGAGGAGCAGGAGGCTGGAGCATCACCA
mOSM WT 36	ATGATGATGGTGGTGATGCTCCAGCCT
mOSM AB1&2 10	GTCCTTGGATGCGGATGTAGGGCTCAAGAAGGCTCTC
mOSM AB1&2 11	ACATCCGCATCCAAGGACTCGATGTGCCCAAGCTT
mOSM AB1 12	GTGCAATGTTCGCGAAGCTTGGGCACATCGA
mOSM AB1 13	CGCGAACATTGCACCCAGCACAGCGTGGCT
mOSM AB2 12	CGGCAGTGTTCGCGAAGCTTGGGCACATCGA
mOSM AB2 13	CGCGAACACTGCCGGGAACGGCCTGGAGCT
mOSM AB2 14	GGTGTCCTCGCTAGGGAAAGCTCCAGGCCGTTCC
mOSM D1 28	CGCTTGCAGTGGTAGACCTGCTCGCGCCACTGTC
mOSM D1 29	GGTCTACCACTGCAAGCGACGCTTTTCAAAGAAAGCTCGAA
mOSM D1 30	CCACAGAAAGCCGCATCCTTCGAGCTTTCTTTGAAAAGCGT
mOSM D1 31	GGATGCGGCTTTCTGTGGGGTTACCATCGGTTCATGGG
mOSM D2 fw	CAGCCGCCCACCCCCACCCCTGCAAGCGACGCTTTTCAAAG
mOSM D2 rev	AGGGGTGGGGGTGGGCGGCTGGCTCGCGCCACTGTCGGTTT
Mouse OSM point mutants - AB loop	
mOSM L35I 10	GGTTTTGGATGCGGATGTAGGGCTCAAGAAGGCTCTC
mOSM L35I 11	ACATCCGCATCCAAAACCTCAACACCCCCGACCTT
mOSM N37G 10	GTCCTTGCAGGCGGATGTAGGGCTCAAGAAGGCTCTC
mOSM N37G 11	ACATCCGCCTGCAAGGACTCAACACCCCCGACCTT
mOSM N39D 11	ACATCCGCCTGCAAAACCTCGACACCCCCGACCTT
mOSM N39D 12	GTGCACGCAGCGCGAAGGTCGGGGGTGTCGA
mOSM T40V 11	ACATCCGCCTGCAAAACCTCAACGTGCCCGACCTT
mOSM T40V 12	GTGCACGCAGCGCGAAGGTCGGGCACGTTGA
mOSM D42K 11	ACATCCGCCTGCAAAACCTCAACACCCCCAAACTT
mOSM D42K 12	GTGCACGCAGCGCGAAGTTTGGGGGTGTTGA
mOSM 35+37 10	GTCCTTGGATGCGGATGTAGGGCTCAAGAAGGCTCTC
mOSM 35+37 11	ACATCCGCATCCAAGGACTCAACACCCCCGACCTT
mOSM 35+39 11	ACATCCGCATCCAAAACCTCGACACCCCCGACCTT
mOSM 35+40 11	ACATCCGCATCCAAAACCTCAACGTGCCCGACCTT
mOSM 35+42 11	ACATCCGCATCCAAAACCTCAACACCCCCAAACTT

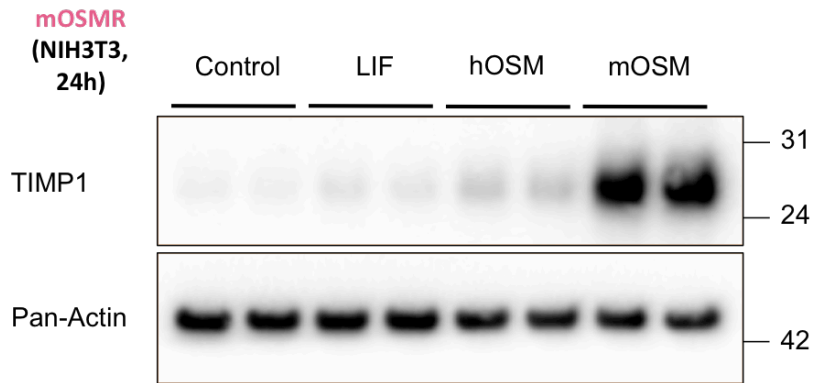|	
mOSM 37+39 11	ACATCCGCCTGCAAGGACTCGACACCCCCGACCTT
mOSM 37+40 11	ACATCCGCCTGCAAGGACTCAACGTGCCCGACCTT
mOSM 37+42 11	ACATCCGCCTGCAAGGACTCAACACCCCCAAACTT
mOSM 39+40 11	ACATCCGCCTGCAAAACCTCGACGTTCCCGACCTT
mOSM 39+40 12	GTGCACGCAGCGCGAAGGTCGGGAACGTCGA
mOSM 39+42 11	ACATCCGCCTGCAAAACCTCGACACCCCCAAACTT
mOSM 39+42 12	GTGCACGCAGCGCGAAGTTTGGGGGTGTCGA
mOSM 40+42 11	ACATCCGCCTGCAAAACCTCAACGTGCCCAAGCTT
mOSM 40+42 12	GTGCACGCAGCGCGAAGCTTGGGCACGTTGA
mOSM 35+37+39 11	ACATCCGCATCCAAGGACTCGACACCCCCGACCTT
mOSM 35+37+40 11	ACATCCGCATCCAAGGACTCAACGTGCCCGACCTT
mOSM 35+37+42 11	ACATCCGCATCCAAGGACTCAACACCCCCAAACTT
mOSM 35+39+40 11	ACATCCGCATCCAAAACCTCGACGTTCCCGACCTT
mOSM 35+39+42 11	ACATCCGCATCCAAAACCTCGACACCCCCAAACTT
mOSM 35+40+42 11	ACATCCGCATCCAAAACCTCAACGTGCCCAAGCTT
mOSM 37+39+40 11	ACATCCGCCTGCAAGGACTCGACGTTCCCGACCTT
mOSM 37+39+42 11	ACATCCGCCTGCAAGGACTCGACACCCCCAAACTT
mOSM 37+40+42 11	ACATCCGCCTGCAAGGACTCAACGTGCCCAAGCTT
mOSM 39+40+42 11	ACATCCGCCTGCAAAACCTCGATGTGCCCAAGCTT
mOSM 39+40+42 12	GTGCACGCAGCGCGAAGCTTGGGCACATCGA
mOSM 35+37+39+40 11	ACATCCGCATCCAAGGACTCGACGTTCCCGACCTT
mOSM 35+37+39+42 11	ACATCCGCATCCAAGGACTCGACACCCCCAAACTT
mOSM 35+37+40+42 11	ACATCCGCATCCAAGGACTCAACGTGCCCAAGCTT
mOSM 35+39+40+42 11	ACATCCGCATCCAAAACCTCGATGTGCCCAAGCTT
mOSM 37+39+40+42	ACATCCGCCTGCAAGGACTCGATGTGCCCAAGCTT
mOSM 35+37+39+40+42	ACATCCGCATCCAAGGACTCGATGTGCCCAAGCTT
Human OSM mutants - mouse AB loop	
hOSM mAB fw	GACTCCTGGACCCCTATATACGTCTGCAAAACCTCAACACCCCCGACCTTCGCGCTGCG
hOSM mAB rev	AAGGCCCCGGGGCGCTCCCTGCACGCAGCGCGAAGGTCGGGGGTGTTGAGGTTTTGCAG
hOSM G39N fw	ATATACGTATCCAAAACCTGGATGTTCC
hOSM G39N rev	GGAACATCCAGGTTTTGGATACGTATAT
hOSM V42T fw	TCCAAGGCCTGGATACTCCTAAACTGAGAG
hOSM V42T rev	CTCTCAGTTTAGGAGTATCCAGGCCTTGGA
hOSM K44D fw	GCCTGGATGTTCCTGATCTGAGAGAGCACT
hOSM K44D rev	AGTGCTCTCTCAGATCAGGAACATCCAGGC

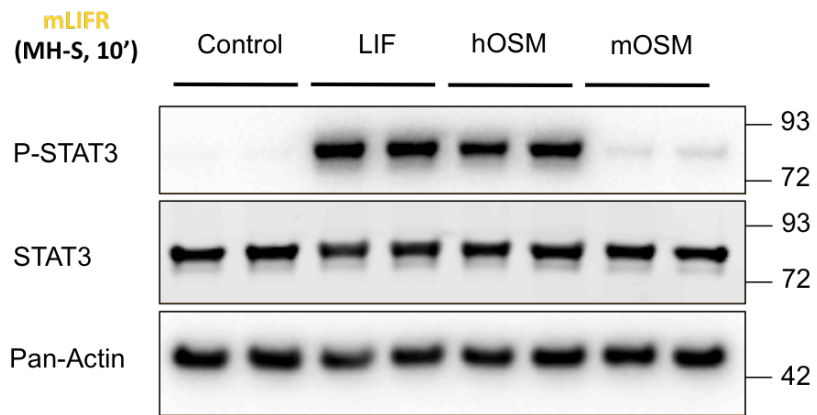|	
hOSM 39+42 fw	AACCTGGATACTCCTAAACTGAGAGAGCACTGCA
hOSM 39+42 rev	GTATCCAGGTTTTGGATACGTATATAGGGGTCCA
hOSM 39+44 fw	AACCTGGATGTTCCTGATCTGAGAGAGCACTGCAGGGAGCG
hOSM 39+44 rev	ATCAGGAACATCCAGGTTTTGGATACGTATATAGGGGTCCA
hOSM 42+44 fw	ACTCCTGATCTGAGAGAGCACTGCAGGGAGCG
hOSM 42+44 rev	ATCAGGAGTATCCAGGCCTTGGATACGTATAT
hOSM 39+42+44 fw	AACCTGGATACTCCTGATCTGAGAGAGCACTGCAGGGAGCG
hOSM 39+42+44 rev	ATCAGGAGTATCCAGGTTTTGGATACGTATATAGGGGTCCA
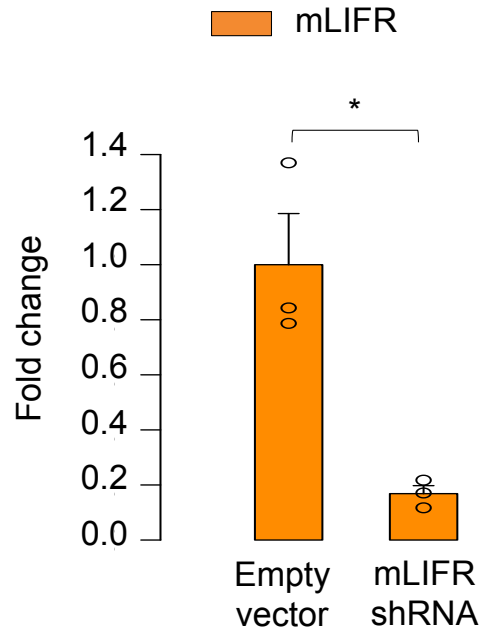
FIGURE S1: mLIFR expression levels are reduced in the mLIFR shRNA-transduced NIH3T3 cells. mLIFR expression levels were assessed by RT-qPCR employing validated primers and normalized to 18S expression levels. Values are presented as mean ± SEM, n=3 independent cultures; *p<0.05.

A

mOSMR
**(NIH3T3,
24h)**

| | Control | LIF | hOSM | mOSM | |

TIMP1 ... 31 / 24

Pan-Actin ... 42

B

mLIFR
(MH-S, 10')

| | Control | LIF | hOSM | mOSM | |

P-STAT3 ... 93 / 72

STAT3 ... 93 / 72

Pan-Actin ... 42

FIGURE S2: Characteristics of the murine receptor activation readout system. A) TIMP1 levels in NIH3T3 cells reflect OSMR activity 24 hours after stimulation. B) STAT3 phosphorylation levels in MH-S cells indicate LIFR activity 10 minutes after stimulation.