

Immunoproteasome subunit LMP7 Deficiency Improves Obesity and Metabolic Disorders

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Supplementary information

Supplementary Fig. S1. Effect of LMP7 deficiency on Foxp3 expression

Expression of *Foxp3* in epididymal WAT of WT and LMP7^{-/-} mice on normal chow and HFD (n = 4 for each).

Supplementary Fig. S2. Effect of LMP7 deficiency on the production of IL-1 β , IL-6, and TNF- α

Peritoneal macrophages were isolated from WT and LMP7^{-/-} mice (n = 4 for each), and treated with or without palmitate for 24 h. The levels of IL-1 β , IL-6, and TNF- α in the supernatants were assessed. Data are expressed as mean \pm SEM. **p* < 0.05, ***p* < 0.01.

Supplementary figure S3. Effect of LMP7 deficiency on the expression of *Adipoq*, *Pparg*, *Cebpa*, and *Cebpb*

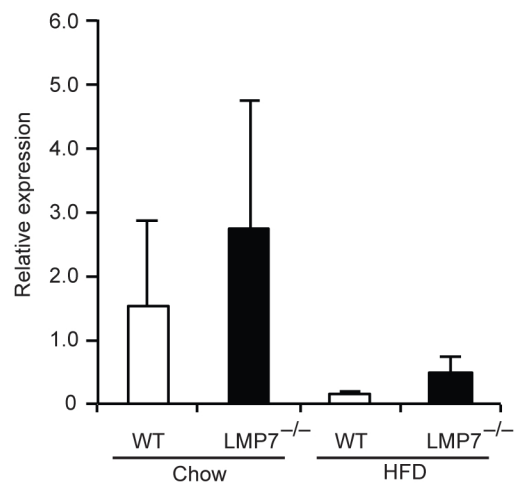
Epididymal WAT was extracted from WT and LMP7^{-/-} mice fed with HFD for 8 weeks. *Adipoq*, *Pparg*, *Cebpa*, and *Cebpb* mRNA expression was assessed by real-time RT-PCR analysis (normal chow: n = 4, HFD: n = 8 for each). Data are expressed as mean \pm SEM. **p* < 0.05, ***p* < 0.01.

Supplementary Table S1: Primer List for real-time PCR

Gene Symbol	Forward (5' - 3')	Reverse (5' - 3')
<i>Actb</i>	CCTGAGCGCAAGTACTCTGTGT	GCTGATCCACATCTGCTGGAA
<i>Tnfa</i>	AAGCCTGTAGCCCACGTCGTA	GGCACCCTAGTTGGTTGTCTTTG
<i>Emr1</i> (F4/80)	CCTGGACGAATCCTGTGAAG	GGTGGGACCACAGAGAGTTG
<i>Ccr2</i>	CCTGCAAAGACCAGAAGAGGG	GAGATGTTGATAGTATGCCGTGGA
<i>Ccr5</i>	CTGGCAAAAAGCTGAAGAGCGT	GCAGCATAGTGAGCCCAGAAT
<i>Ccl2</i>	GGCTCAGCCAGATGCAGTTAAC	GCCTACTCATTGGGATCATCTTG
<i>Ccl5</i>	ACCAGCAGCAAGTGCTCCAA	TGGCTAGGACTAGAGCAAGCAATG
<i>Ccl7</i>	GCTGCTTTTCAGCATCCAAGTG	CCAGGGACACCGACTACTG
<i>Ccl8</i>	TGCCTGCTGCTCATAGCTGTC	GACATAACCCTGCTTGGTCTGGAA
<i>Foxp3</i>	CTCATGATAGTGCCTGTGTCCTCAA	AGGGCCAGCATAGGTGCAAG
<i>Cd80</i>	GGCAAGGCAGCAATACCTTA	CTCTTTGTGCTGCTGATT
<i>Cd86</i>	TCTCCACGGAAACAGCATCT	CTTACGGAAGCACCCATGAT
<i>Nos2</i>	GGCAGCCTGTGAGACCTTTG	GAAGCGTTTCGGGATCTGAA
<i>Arg1</i>	ACAAGACAGGGCTCCTTTCA	AGCAAGCCAAGGTAAAGCC
<i>Cd163</i>	TCCACACGTCCAGAACAGTC	CCTTGAAACAGAGACAGGC
<i>Cd206</i>	CAGGTGTGGGCTCAGGTAGT	TGTGGTGAGCTGAAAGGTGA
<i>Chil3</i> (Ym-1)	GGGCATACCTTTATCCTGAG	CCACTGAAGTCATCCATGTC
<i>Fabp1</i>	CCATGAACTTCTCCGGCAAGTACC	CTTTGGGTCCATAGGTGATGGTGAG
<i>Fabp2</i>	GTGGAAAGTAGACCGGAACGA	CCATCCTGTGTGATTGTCAGTT
<i>Pnlip</i>	CTGGGAGCAGTAGCTGGAAG	AGCGGGTGTTGATCTGTGC
<i>Pnliprp2</i>	ATGCCTATGGATGTCCGTGGA	TGCCCAGGGCTTGTTCATTG
<i>Adipoq</i>	GTCAGTGGATCTGACGACACCAA	ATGCCTGCCATCCAACCTG
<i>Pparg</i>	TGTCGGTTTCAGAAGTGCCTTG	TTCAGCTGGTTCGATATCACTGGAG
<i>Cebpa</i>	TTGAAGCACAATCGATCCATCC	GCACACTGCCATTGCACAAG
<i>Cebpb</i>	ACCGGGTTTCGGGACTTGA	CCCGCAGGAACATCTTTAAGTGA
<i>Ucp1</i>	TACCAAGCTGTGCGATGTCCA	GCACACAAAACATGATGACGTTCC

Supplementary Table S2: Reagents used for flow cytometric analyses

Reagents	Vender	Clone	Conjugates
CD3	BD Biosciences	145-2C11 (hamster)	FITC
CD8a	BD Biosciences	53-6.7 (rat)	PE
CD11b	eBiosciences	M1/70 (rat)	FITC, PE
CD45	eBiosciences	30-F11 (rat)	FITC, PE, APC
F4/80	eBiosciences	BM8	FITC, PE
CCR2	R&D Systems	475301 (rat)	FITC
CD16/CD32	BD Biosciences	2.4G2 (rat)	N/A (Fc block)
7-AAD	BD Biosciences	N/A	N/A



Supplementary Figure S2 Kimura H

