Supplementary Information

Table S1. Functionally annotated genes and top five biological functions in upregulated probe sets.

Name	*p*-value	Genes (number of genes)
All functionally annotated genes		*ADH1C*, *AHR*, *APOD*, *C2orf40*, *CCRL1*, *CD200*, *CRABP1*, *DACT1*, *DIO2*, *DMP1*, *EGR3*, *F13A1*, *FBN1*, *GAS6*, *HTRA1*, *IGF2*, *LUM*, *Lyz1/Lyz2*, *MMP13*, *MYLK*, *NR4A1*, *NREP*, *OMD*, *PADI2*, *PLAGL1*, *PLEKHA6*, *SIAH2*, *THBS1*, *TNNC1 (29)*
Skeletal and muscular system development and function	5.26E-07-1.80E-02	*AHR*, *APOD*, *CD200*, *DACT1*, *DMP1*, *EGR3*, *FBN1*, *GAS6*, *IGF2*, *LUM*, *MMP13*, *MYLK*, *NR4A1*, *PLAGL1*, *THBS1*, *TNNC1 (16)*
Cellular movement	5.30E-06-1.80E-02	*AHR*, *CCRL1*, *CD200*, *DMP1*, *F13A1*, *FBN1*, *GAS6*, *HTRA1*, *IGF2*, *LUM*, *Lyz1/Lyz2*, *MMP13*, *MYLK*, *NR4A1*, *NREP*, *SIAH2*, *THBS1 (17)*
Connective tissue development and function	3.08E-05-1.80E-02	*AHR*, *DACT1*, *DMP1*, *FBN1*, *GAS6*, *IGF2*, *LUM*, *MMP13*, *NR4A1*, *PLAGL1*, *SIAH2*, *THBS1 (12)*
Embryonic development	3.08E-05-1.80E-02	*AHR*, *DACT1*, *DIO2*, *DMP1*, *EGR3*, *FBN1*, *GAS6*, *IGF2*, *LUM*, *MMP13*, *MYLK*, *NR4A1*, *PLAGL1*, *THBS1 (14)*
Organ development	3.08E-05-1.80E-02	*AHR*, *DACT1*, *DIO2*, *DMP1*, *EGR3*, *FBN1*, *GAS6*, *IGF2*, *LUM*, *MMP13*, *MYLK*, *PLAGL1*, *THBS1 (13)*

Table S2. Functionally annotated genes and top five biological functions in downregulated probe sets.

Name	*p*-value	Genes (number of genes)
All functionally annotated genes		*ANXA8L2*, *BLNK*, *C15orf48*, *CDA*, *CDH1*, *CEACAM1*, *CTHRC1*, *DDR1*, *GATM*, *GCAT*, *GPAA1*, *HSPA4L*, *ID1*, *ID2*, *ID3*, *INPP5K*, *KIF20B*, *KIF2C*, *KITLG*, *KRT14*, *NQO1*, *SOSTDC1*, *TGFBI*, *TMCC3*, *TMEFF2*, *TRIM29*, *ZDHHC2 (27)*
Gene expression	1.43E-08-8.01E-03	*ID1*, *ID2*, *ID3*, *KITLG (4)*
Cell cycle	7.95E-07-1.99E-02	*BLNK*, *CDH1*, *CEACAM1*, *ID1*, *ID2*, *ID3*, *KIF20B*, *KIF2C*, *KITLG*, *KRT14 (10)*
Connective tissue development and function	7.95E-07-1.74E-02	*CDH1*, *CEACAM1*, *ID1*, *ID2*, *ID3*, *KITLG*, *NQO1 (7)*

Table S2. *Cont.*

Name	*p*-value	Genes (number of genes)
Cellular development	1.19E-06-2.20E-02	*BLNK*, *CDH1*, *CEACAM1*, *CTHRC1*, *DDR1*, *GCAT*, *ID1*, *ID2*, *ID3*, *INPP5K*, *KITLG*, *KRT14*, *NQO1*, *SOSTDC1*, *TGFBI*, *TMEFF2 (16)*
Cellular growth and proliferation	1.19E-06-2.20E-02	*BLNK*, *CDA*, *CDH1*, *CEACAM1*, *CTHRC1*, *DDR1*, *GCAT*, *ID1*, *ID2*, *ID3*, *INPP5K*, *KIF20B*, *KIF2C*, *KITLG*, *KRT14*, *NQO1*, *TGFBI*, *TMEFF2 (18)*

Table S3. Nucleotide sequences of primers and a probe for target genes.

Genes	Orientation	Nucleotide sequence (5' to 3')	GenBank accession No.
Ahr	Sense	gtcacagcagatgccttggt	NM_013464
	Antisense	ccttgtgcagagtctgggtt	
Bglap	Sense	ctctgacctcacagatgcca	NM_007541
	Antisense	tttgtaggcggtcttcaagc	
Cd200	Sense	aaaggcgctgcacacaactg	NM_010818
	Antisense	gttttctgggctcacggctttc	
Egr3	Sense	atgggctccattccggaaca	NM_018781
	Antisense	aatcccgggtggatctgctt	
GAPDH	Sense	tcggtgtgaacggatttggc	NM_008084
	Antisense	gtgccgttgaatttgccgtg	
Gas6	Sense	tcctggcagttgaggatg	NM_019521
	Antisense	gccatccacttctagggt	
Htra1	Sense	tgacagagtcccacgatcgaca	NM_019564
	Antisense	ccacagactgtccgttgatgct	
Id1	Sense	gaacgtcctgctctacgaca	NM_010495
	Antisense	ccgacttcagactccgagtt	
Id2	Sense	gactcgcatcccactatcgtca	NM_010496
	Antisense	caggatgctgatgtccgtgttc	
Id3	Sense	cctcttggacgacatgaaccac	NM_008321
	Antisense	gtggcaaaagctcctcttgtcc	
Igf2	Sense	gggtggtaacacgatcagacgacttccccagatacc	NM_010514
	Antisense		
Lum	Sense	cacagctacccaactgccatgt	NM_008524
	Antisense	cactgcaggtctgtgacgttct	
Matn4	Sense	gccaaagaggaaggcatcgtca	NM_013592
	Antisense	ccggagaataggacacgtgcaa	
Mylk	Sense	ccatccgtgatctggaagtcgt	NM_139300
	Antisense	cagttgccgtcttcgtcgtagt	
Nrep	Sense	gtcagccaagaaccgtttg	NM_053078
	Antisense	actggtagctggagaggtga	
Omd	Sense	gtgagcagaggagtactaacgg	NM_012050
	Antisense	cctgactgtcatggtcgtct	

Table S3. *Cont.*

Genes	Orientation	Nucleotide sequence (5' to 3')	GenBank accession No.
Spp1	Sense Antisense Probe	ggacctcacctctcacatgaaga agacttggttcatccagctgact FAM™-cagcttctgagcatgccctctgatca-TAMRA™	NM_009263
Thbs1	Sense Antisense	acaggtgtgcaaaccgcgaaac tgatgccattgcctgcatagcc	NM_011580
Tnnc1	Sense Antisense	gttcggtgcatgaaggacgaca tggcctgcagcatcatcttcag	NM_009393
Znhit6	Sense Antisense	agtcacagactggggtccaa cctctcaacaccacgtgcaa	NM_001081094

Figure S1. Venn diagram of probe sets that were differentially expressed. Cells were exposed to LIPUS (30 mW/cm2, for 20 min), followed by culturing at 37 ˚C for six (**A** and **B**) and 12 h (**C** and **D**). Gene expression analysis of the probe sets that were upregulated (A and C) and downregulated (B and D) by a factor of 1.5 or greater was conducted using GeneSpring® software. The diagram shows the number of specifically and commonly expressed probe sets affected by LIPUS. The experiments were repeated three times.

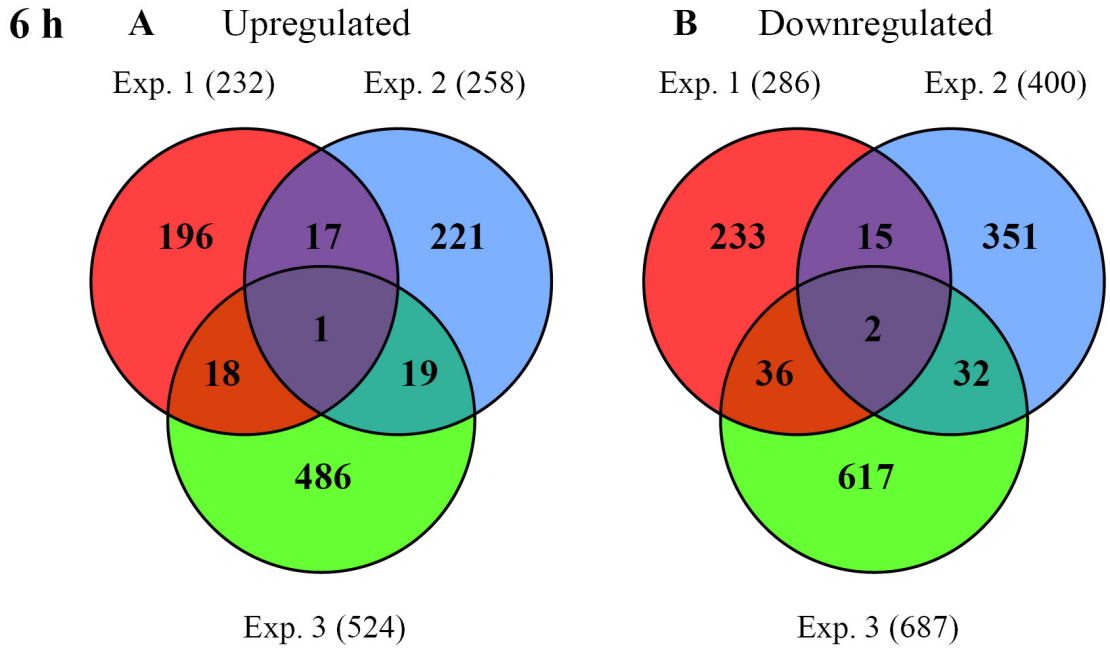

Figure S1. *Cont.*