

**Supplemental Table S1: Real-time PCR primer/probe information (Applied Biosystems)**

Gene	Catalog #	Unigene	RefSeq	Probe exon-exon boundary	Amplicon size (bp)
Runx2	Hs01047978_m1	Hs.535845	NM_001024630.3	7-8	98
Alkaline phosphatase/AP	Hs01029142_m1	Hs.75431	NM_001177520.1	3-4	73
Osteonectin/ON	Hs00277762_m1	Hs.111779	NM_003118.3	8-9	122
Osteopontin/OP	HS00167093_m1	Hs.313	NM_000582.2	3-4	65
Osteocalcin/OC	Hs00609452_g1	Hs.654541	NM_199173.4	2-3	74
18S rRNA	Hs99999901_s1		X03205.1		187
GAPDH	Hs99999905_m1	Hs.544577	NM_002046.4	3-3	122

**Supplemental Table S2: ERK1/2 shRNA primer sequences**

dsOligo	short hairpin RNA (shRNA) sequence	Homology
<b>1A5</b>	top -5' <b>CACC</b> <u>CGCAATGACCATATCTGCTACT</u> <u>CGAA</u> AGTAGCAGATATGGTCATTGC bottom – 5' <b>AAAAGCAATGACCATATCTGCTACT</b> <u>TTTCG</u> AGTAGCAGATATGGTCATTGC	ERK1- 100% ERK2 – 95%
<b>2A1</b>	top – 5' <b>CACC</b> <u>GGACCTCATGGAACAGATCT</u> <u>CGAA</u> AGATCTGTTCCATGAGGTCC bottom – 5' <b>AAAAGGACCTCATGGAACAGATCT</b> <u>TTTCG</u> AGATCTGTTCCATGAGGTCC	ERK1 – 75% ERK2 – 100%
<p>pENTR primers for TOPO cloning into pENTR™/U6 vector shown in <b>bold</b>  nucleotide spacer (i.e. loop) shown <u>underlined</u>  sense sequence shown in <b>red</b>; anti-sense sequence shown in <b>green</b></p>		

**Supplemental Table S3: ASC Mineralization Potential vs. ERK1/2, JNK1/2 Activation**

ASC	OM Induction (days)	Mineralization capacity (-fold change vs. CM)	ERK1/2 Activation (-fold change vs. CM)	JNK1/2 Activation (-fold change vs. CM)
<b>Category 1 – negligible mineralization capacity</b>				
216	14	-1.068	<b>-4.144/-2.963*</b>	1.249/2.488
	21	-2.427	<b>-3.653/-2.843*</b>	-1.247/-1.248
224	14	1.662	-2.218/-2.209	1.932/1.954
	21	-1.433	-2.338/-2.445	-1.443/-1.048
275	21	-1.183	<b>-3.030/-1.330*</b>	<b>-2.667/-9.091*</b>
267	21	1.075	1.081/2.840	0.814/3.485
262	14	1.462	1.018/1.600	1.816/2.349
276	21#1	1.618	1.107/0.452	1.510/-1.637
<b>Category 2 – moderate mineralization capacity</b>				
267	14	2.516	<b>-2.544/1.226*</b>	<b>-2.869/-3.115*</b>
274	14	2.276	2.627/0.637	<b>-6.452/-1.560*</b>
	21#1	<b>4.311*</b>	2.868/1.656	<b>7.771/6.565</b>
	21#2	<b>4.877*</b>	<b>13.854/6.923*</b>	0.907/1.128
247	14	2.430	-1.271/-2.386	2.180/-1.319
	21	<b>10.257*</b>	<b>8.503/12.504*</b>	1.819/2.588
276	21#2	<b>7.520*</b>	1.527/0.966	<b>16.984/10.323*</b>
266	14	<b>3.421*</b>	<b>-1.938/-3.703*</b>	<b>3.579/3.749*</b>
pooled	14	<b>5.339*</b>	0.827/0.819	<b>-3.135/-1.332*</b>
<b>Category 3 – high mineralization capacity</b>				
266	21	<b>26.073*</b>	<b>8.880/9.989*</b>	<b>11.071/2.591*</b>
262	21	<b>17.684*</b>	<b>4.431/3.856</b>	<b>2.667/-1.036</b>
277	14	<b>6.983*</b>	<b>10.594/12.698*</b>	<b>2.261/4.522*</b>
	21	<b>55.603*</b>	<b>4.909/13.048*</b>	<b>4.709/6.244*</b>
260	14	<b>52.50*</b>	<b>5.282/5.552*</b>	<b>4.817/7.544*</b>
	21	<b>90.30*</b>	<b>15.116/9.115*</b>	<b>13.188/7.787*</b>
269	14	<b>64.700*</b>	<b>9.189/11.447*</b>	<b>5.639/16.178*</b>
	21	<b>77.970*</b>	<b>3.445/13.581*</b>	<b>19.552/14.540*</b>
278	14	<b>25.846*</b>	<b>2.364/5.190*</b>	<b>3.422/5.418*</b>
	21	<b>66.741*</b>	<b>20.452/16.380*</b>	<b>30.222/12.342*</b>
282	21	<b>59.3108*</b>	<b>9.467/14.556*</b>	<b>13.488/6.845*</b>
pooled	21	<b>67.266*</b>	<b>4.169/4.710*</b>	<b>2.270/4.471*</b>

n= 15

ERK1/2 & JNK1/2 activation levels and their associated mineralization levels shown as the mean –fold change vs. CM (standard deviation not shown)

Statistical significance versus CM controls (p<0.05) shown with an “\*\*”

The effect of ERK1/2 OR JNK1/2 activation alone on ASC mineralization potential shown in **blue**

A possible synergistic effect of pERK1/2 AND pJNK1/2 activation on mineralization levels shown in **red**

“pooled” = ASC populations 290, 291, 293