

RESEARCH REPORTS

Biological

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Extracellular Phosphate Alters Cementoblast Gene Expression

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APPENDIX

Gene Ontology (GO) Grouping of OCCM Genes Changing in Response to ePi

Transcription Factor Activity

Unigene ID	Gene Name	Expression Change (hrs)					
		1	3	6	12	24	48
Mm.24169	Cebpa-rs1	2				4.4 ¹	
Mm.181959	Egr 1	2.2				2.2	
Mm.290421	Egr 2	2.6	5	2.8			
Mm.205798	Fkh18		2.4	1.2			
Mm.14092	Foxc2		3.2	2.4	2.6	2.2	
Mm.201322	Adnp					2.2	
Mm.270109	Nr2f2					2.6	
Mm.119	Nr4a1	2.5				3.0	
Mm.286407	Sox9					2.4	
Mm.3868	Yy1					2.1	
Mm.209903	Alf2					2.5	
Mm.5244	Crem					2.6	
Mm.4866	Etv1					2.0	
Mm.22700	Gtf2h1					2.3	
Mm.275071	Jun					3.6	
Mm.2444	Myc		2.0			3.2	
Mm.234641	Rorb					2.4	
Mm.212395	Rai14					2.0	
Mm.29581	Hey1		-1.9	-2.1	-2.4	-2.3	-2.4
Mm.27159	Asb2					-3.0	-2.0
Mm.27908	Nfatc4					-2.8	
Mm.9394	Nfix					-2.2	
Mm.1802	Prrx2					-2.6	
Mm.3410	Six5					-2.4	
Mm.112	Tcea3					-3.2	
Mm.3881	Tcf15					-3.0	
Mm.39039	Irx3		-2				
Mm.10353	Creb3l1				-2.1	-4.0	

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Skeletal Development, Ossification, and Bone Remodeling

Unigene ID	Gene Name	Expression Change (hrs)					
		1	3	6	12	24	48
Mm.265264	Ank				4.6		
Mm.286407	Sox				2.8		
Mm.199008	Dmp1				2.8		
Mm.28440	Pthlh				2.2	3.8	
Mm.2529	Phex					2.5	
Mm.249221	Tnfrsf11 (Rankl)					2.2	
Mm.259673	Tob1					2.0	
Mm.87858	Bglap				-1.6	-3.4	-3.4
Mm.1810	Ctgf					-2.4	-2.0
Mm.294225	Pthrl			-2.6	-2.4	-5.0	-2.5
Mm.4987	BSP				-3.8	-6.4	
Mm.263284	Sp7 (osterix)		-2.6	-3.8	-4.8		
Mm.157751	Otor					-7.4	
Mm.248380	Tgfb1				-2.6		

Metalloproteinases, TIMP, Calcium Ion-binding

Mm.4993	MMP 3					2.6	7.2
Mm.5022	MMP 13						6.4
Mm.14126	MMP 10			2.0	2.2	4.0	2.2
Mm.8245	TIMP 1		1.8	1.8	2.6	2.0	4.8
Mm.28623	CDH 17					3.0	
Mm.158700	CSPG2					2.6	
Mm.25326	DST					2.2	
Mm.5074	LALBA					3.0	
Mm.269747	LTBP 1					2.4	
Mm.117294	MAN1A					3.0	
Mm.1213	MASP 1			2.6	2.6	3.4	
Mm.10306	PLSCR 2					2.0	
Mm.127156	PROS 1					2.4	
Mm.276926	PRSS 2					2.4	
Mm.703	S100A 3						2.8
Mm.21567	S100A 8						2.4
Mm.243085	MGLAP						3.6
Mm.6442	PKD 2					2.2	
Mm.226899	PKD2L 2					2.2	
Mm.4561	MMP 11		-1.2	-1	-1	-2.8	-0.6
Mm.29373	MMP 23				-1.4	-2.8	-2.2
Mm.4871	TIMP 3				-3.0	-2.0	
Mm.3267	ANXA8					-2.2	
Mm.6306	ATP2A3					-1.5	
Mm.87858	BGLAP (OCN)					-3.2	-3.4
Mm.219527	CIS					-3.0	
Mm.28623	CALML4					-3.2	
Mm.45127	CGREF1					-2.0	
Mm.288381	FBLN 5					-2.8	
Mm.24720	FKBP 7					-2.4	
Mm.289706	LAMB 2					-2.6	
Mm.29997	RCN 3					-2.0	
Mm.26688	THBS 2					-2.1	
Mm.30162	SMOC 2						-2.4
Mm.271770	MYL 9					-4.6	
Mm.20348	NID 2					-3.0	

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Cell-surface Receptor-linked Signal Transduction

Unigene ID	Gene Name	Expression Change (hrs)					
		1	3	6	12	24	48
Mm.896	IL1R 1					2.0	
Mm.731	IL12RB 1				2.6	2.4	
Mm.24208	IL13RA 1			2.6			
Mm.233802	IL4RA		2.0			2.3	
Mm.10760	OSMR		2.2			2.8	
Mm.1359	PLAUR					2.8	
Mm.193451	IL1RA 1					-2.4	

Cell Growth and/or Maintenance

Mm.329515	ABL 2					2.4	
Mm.4128	AXL					3.0	
Mm.272183	BTG 1					3.0	
Mm.280125	CRK					2.1	
Mm.22574	CSF 1R					3.2	
Mm.21013	CXCL 1	6.0	8.1	4.4	2.0	5.0	
Mm.261453	ECT 2					3.2	
Mm.275071	JUN				2.0	3.8	
Mm.288898	MLLT 3					2.0	
Mm.2444	MYC		2.0			3.4	
Mm.4809	PGF		2.6		2.2	3.6	
Mm.259653	RASA 1			2.0	2.0	3.8	
Mm.282184	VEGFA					2.6	
Mm.10222	WISP 1					-2.0	

TGF- β Signaling Pathway

Mm.269747	LAP					2.4	
Mm.275071	JUN					3.8	
Mm.248380	TGFB 1					-2.6	
Mm.6813	BMP 4		-2.0	-2.4			
Mm.209571	BMP 3			-2.8	-4.8		

¹ Values are fold change.

² Blank cells indicate that gene did not pass selection criterion of expression fold change of \leq or \geq 2.