

Supplementary information S1
List of bone phenotypes in mice deficient in osteoimmunoregulatory molecules

Gene	Bone resorption (osteoclast-mediated)		Bone formation (osteoblast-mediated)	Bone volume	References
	Differentiation	Function			
Cytokines/secreted proteins					
RANKL	↓	–	–	↑	1
M-CSF (<i>op/op</i>)	↓	–	–	↑	2
OPG	↑	↑	–	↓	3
IFNβ	↑	–	→	↓	4
IL-6	→	–	→	→	5
	↓*	–	–	–	6
IL-7	↑	–	→	↓	7
Receptors/channels/membrane factors					
RANK	↓	–	–	↑	8
cFMS	↓	–	–	↑	9
DAPI2/FcRγ	↓	↓	↓	↑	10
DC-STAMP	↓	↓	–	↑	11
plexin-A1	↓	↓	→	↑	12
β ₃ -integrin	↑	↓	–	↑	13
C1C7	–	↓	–	↑	14
OSTM1 (<i>gl/gl</i>)	↓	↓	–	↑	15
ATP6I (<i>oc/oc</i>)	→	↓	→	↑	16
IFNα/βR1	↑	–	→	↓	4
IFNγR1	↑*	–	–	–	17
IL-1R1	→	–	–	→	18
	↓*	–	–	–	19
TNFR1	→	–	–	→	18
IL-11R	↓	–	↓	↑	5
CD44*	↑	–	↑	↓	20
gp130	↑	–	↑	↓	21
EPHB4**	↓	↓	↑	↑	22
B7-H3	–	–	↓	↓	23
RAGE	↓	↓	–	↑	24
Adaptor/signalling molecules					
TRAF6	→	↓	–	↑	25
	↓	–	–	↑	26
p62*	↓	–	–	↑	27
GAB2	↓	–	→	↑	28
STAT1	↑	–	↑	↑	29
SOCS1/3	↓*	–	–	–	30
SOCS3	↑	–	↑	↓	31
FHL2	↑*	–	–	↓	32
	→	–	↓	↓	33
MyD88	↓	–	↓	↓	34
BCL2	↓	–	–	↑	35
VAV3	↑	↓	–	↑	36
Kinases/phosphatases					
cSRC	–	↓	–	↑	37
	↑	–	↑	↑	38
NIK	↓*	–	–	→	39
IKKβ	↓	–	↓	↑	40
IRAK-M	↑	–	↑	↓	41
SHP1 (<i>me^v/me^v</i>)	↑	–	–	↓	42
	↑	–	↓	↓	43
SHIP1	↑	↑	–	↓	44
PLCγ2	↓	↓	→	↑	45
Other enzymes					
cathepsin K	→	↓	–	↑	46
	↑	↓	↑	↑	47
TRAP	→	↓	↓	↑	48
Transcription factors					
PU.1	↓	–	–	↑	49
MITF (<i>mi/mi</i>)	↓	–	–	↑	50
NF-κB p50/p52	↓	–	→	↑	51
cFOS	↓	–	–	↑	52

FRA1	→	→	↓	↓	53
JUNB	↓	→	↓	↓	54
ATF4	↑	-	↓	↓	55
RUNX2	↓	-	↓	↓	56
CBFB	-	-	↓	↓	57
OSTERIX	-	-	↓	↓	58
NFATc1	↓	-	↓	↑	59
NFATc2	→	→	↓	↓	60
SHN3	→	→	↑	↑	61
EBF2	↑	-	→	↓	62
PAX5	↑	-	-	↓	63
p53	↑	-	↑	↑	64

*analysed in models of inflammatory bone loss; **data in transgenic mice; ↑, increased; ↓, decreased; -, not described or analysed; (), naturally occurring mutants. RANKL, receptor activator of nuclear factor-κB ligand; M-CSF, macrophage colony-stimulating factor; OPG, osteoprotegerin; IFN, interferon; IL, interleukin; DAP12, DNAX activation protein 12; FcRγ, Fc receptor common γ-subunit; DC-STAMP, dendritic cell-specific transmembrane protein; OSTM1, osteopetrosis associated transmembrane protein 1; EPHB4, ephrin receptor B4; RAGE, receptor for advanced glycation end products; TRAF6, tumour-necrosis factor-receptor-associated factor 6; GAB2, growth-factor-receptor-bound protein 2-associated binding protein 2; STAT1, signal transducer and activator of transcription 1; SOCS, suppressor of cytokine signalling; FHL2, four and a half LIM domain 2; MyD88, myeloid differentiation primary-response gene 88; BCL2, B-cell leukemia/lymphoma protein 2; NIK, nuclear factor-κB-inducing kinase; IKKβ, inhibitor of κB kinase β; IRAK-M, IL-1R-associated kinase M; SHP1, SH2 domain-containing protein tyrosine phosphatase 1; SHIP1, SH2 domain-containing inositol-5-phosphatase 1; PLC, phospholipase C; TRAP, tartrate-resistant acid phosphatase; MITF, microphthalmia-associated transcription factor; NF-κB, nuclear factor-κB; FRA1, FOS-related antigen 1; ATF4, activating transcription factor 4; RUNX2, RUNT-related transcription factor 2; CBFB, core-binding factor β; NFAT, nuclear factor of activated T cells; SHN3, Schnurri-3; EBF2, early B-cell factor 2.

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