TABLE 1.

Bone mineral densities (BMD) of all backgrounds and genotypes at 3 months age. Significance was assessed via one way ANOVA. Crtl-Crtl column compares controls to each other. Significant change indicated with * (p<0.05). In parenthesis is genotype significance was observed to. NS; not significant. Last column (dKO – Crtl) represents comparison of $Tgm2^{-/-};F13a1^{-/-}$ mice to all other genotypes. These mice show significance only to their C57BL/6;CBA control.

Background / Genotype	BMD (g/cm^2)	SEM	Significance (ANOVA)	
			Ctrl-Ctrl	dKO - Ctrl
C57BL/6 (n = 6)	0.050767	0.000880	* (C57;CBA)	NS
$Tgm2^{-/-}$ (n = 6)	0.053250	0.001737	NS	NS
CBA/CA (n = 7)	0.053943	0.000545	NS	NS
$F13a1^{-/-}$ (n = 6)	0.054150	0.000852	NS	NS
C57BL/6;CBA/CA (n = 11)	0.055836	0.000477	* (C57)	*
$Tgm2^{-/-};F13a1^{-/-}$ (n = 8)	0.051100	0.000608		

TABLE 2.

Ultimate force required to fracture bone of all backgrounds and genotypes at 3 months age. Force was measured via three-point bending test. Significance was assessed via one way ANOVA. Crtl-Crtl column compares controls to each other. Significant change indicated with * (p<0.05). NS; not significant. In parenthesis is genotype significance was observed to. $Tgm2^{-/-};F13a1^{-/-}$ mice show significance to $Tgm2^{-/-}$ mice and to their C57BL/6;CBA control.

Backgrounds / Genotypes	Ultimate force (N)	SEM	Significance (ANOVA)	
			Ctrl-Ctrl	dKO - Ctrl
C57BL/6 (n = 6)	21.277	0.694	NS	NS
$Tgm2^{-/-}$ (n = 6)	24.816	1.322	NS	*
CBA/CA (n = 6)	22.112	0.390	NS	NS
$F13a1^{-/-}$ (n = 6)	21.784	0.721	NS	NS
C57BL/6;CBA/CA (n = 5)	24.594	0.844	NS	*
$Tgm2^{-/-};F13a1^{-/-}$ (n = 6)	20.410	0.811		

TABLE 3.

μComputed tomopgraphy (μCT) parameters; bone volume / tissue volume (BV/TV), trabecular number (Tb.N.) and trabecular spacing (Tb.Sp.) of all backgrounds and genotypes at 3 months age. Force was measured via three-point bending test. Significance was assessed via one way ANOVA. Crtl-Crtl column compares controls to each other. Significant change indicated with * ($p<0.05$). NS; not significant. In parenthesis is genotype significance was observed to. $Tgm2^{-/-};F13a1^{-/-}$ mice show significance only to their C57BL/6;CBA control.

Background / Genotype	μCT parameter		Significance (ANOVA)	
	BV/TV (%)	SEM	Ctrl-Ctrl	dKO - Ctrl
C57BL/6 (n = 3)	6.2454	1.0213	NS	NS
$Tgm2^{-/-}$ (n = 5)	5.6762	1.0096	NS	NS
CBA/CA (n = 4)	6.3630	0.3865	NS	NS
$F13a1^{-/-}$ (n = 6)	7.3524	0.7848	NS	NS
C57BL/6;CBA/CA (n = 5)	10.5645	2.0313	NS	*
$Tgm2^{-/-};F13a1^{-/-}$ (n = 5)	4.5999	0.8767		

	Tr. N. (1/mm)	SEM	Ctrl-Ctrl	dKO - Ctrl
C57BL/6 (n = 3)	1.1750	0.2018	NS	NS
$Tgm2^{-/-}$ (n = 5)	1.0167	0.1559	NS	NS
CBA/CA (n = 4)	1.0145	0.0587	NS	NS
$F13a1^{-/-}$ (n = 6)	1.1847	0.0939	NS	NS
C57BL/6;CBA/CA (n = 5)	1.6940	0.2830	NS	*
$Tgm2^{-/-};F13a1^{-/-}$ (n = 5)	0.7964	0.1244		

	Tr. Sp. (mm)	SEM	Ctrl-Ctrl	dKO - Ctrl
C57BL/6 (n = 3)	0.2569	0.0429	* (CBA)	NS
$Tgm2^{-/-}$ (n = 5)	0.2965	0.0167	* (CBA)	NS
CBA/CA (n = 4)	0.4273	0.0519	* ($Tgm2$-/-, C57, C57;CBA)	NS
$F13a1^{-/-}$ (n = 6)	0.3697	0.0294	* (C57;CBA)	NS
C57BL/6;CBA/CA (n = 5)	0.2435	0.0096	* (CBA, $F13a1$-/-)	*
$Tgm2^{-/-};F13a1^{-/-}$ (n = 5)	0.3853	0.0176		

TABLE 4.

Serum levels of <u>bone resorption</u> marker (RatLaps™) of all backgrounds and genotypes at 3 months age. Significance was assessed via one way ANOVA. Crtl-Crtl column compares controls to each other. Significant change indicated with * (p<0.05). NS; not significant. In parenthesis is genotype significance was observed to. $Tgm2^{-/-};F13a1^{-/-}$ mice show significance to its C57BL/6;CBA control as well as $Tgm2^{-/-}$ and CBA/CA control.

Background / Genotype	RatLaps (ng/ml)	SEM	Significance (ANOVA)	
			Ctrl-Ctrl	dKO - Ctrl
C57BL/6 (n = 3)	24.7300	1.510	NS	NS
$Tgm2^{-/-}$ (n = 5)	23.4580	1.686	NS	*
CBA/CA (n = 4)	19.7425	0.97	NS	*
$F13a1^{-/-}$ (n = 6)	27.0642	2.22	NS	NS
C57BL/6;CBA/CA (n = 6)	19.8467	1.706	NS	*
$Tgm2^{-/-};F13a1^{-/-}$ (n = 5)	35.7540	4.990		