

Appendix Table 1. Micro-CT analysis of cortical midshaft bone from *Col1a1*-cKO and *Prx1*-cKO mice versus WT controls. Mean values \pm standard deviation are shown for *Col1a1*- and *Prx1*-cKO mice and their respective WT controls (n=2-4 for each genotype at 24 wks) for humerus, femur, and tibia cortical midshaft bone, with statistically significantly different values ($p < 0.05$ by independent samples t-test) indicated by bold type.

	T.Ar (mm ²)	B.Ar (mm ²)	B.Ar/T.Ar (%)	Cs.Th (mm)	MMI (mm ⁴)	Ct.Po (%)	TMD (g HA/cm ³)
Humerus							
WT	1.65 \pm 0.12	0.70 \pm 0.07	42.45 \pm 2.59	0.16 \pm 0.01	0.30 \pm 0.07	35.21 \pm 3.02	1.23 \pm 0.04
<i>Col1a1</i> -cKO	1.66 \pm 0.25	0.48 \pm 0.11	28.71 \pm 3.11	0.10 \pm 0.01	0.22 \pm 0.10	46.98 \pm 0.79	1.13 \pm 0.03
WT	1.71 \pm 0.27	0.76 \pm 0.05	45.45 \pm 4.05	0.15 \pm 0.00	0.39 \pm 0.04	36.24 \pm 0.80	1.14 \pm 0.01
<i>Prx1</i> -cKO	1.53 \pm 0.02	0.43 \pm 0.02	27.80 \pm 1.04	0.09 \pm 0.02	0.19 \pm 0.01	22.26 \pm 7.18	1.02 \pm 0.05
Femur							
WT	1.76 \pm 0.11	0.80 \pm 0.03	45.35 \pm 1.57	0.17 \pm 0.01	0.39 \pm 0.07	55.50 \pm 4.18	1.23 \pm 0.08
<i>Col1a1</i> -cKO	1.86 \pm 0.17	0.63 \pm 0.08	33.91 \pm 2.15	0.12 \pm 0.01	0.36 \pm 0.10	61.88 \pm 7.08	1.14 \pm 0.04
WT	1.76 \pm 0.22	0.81 \pm 0.04	46.53 \pm 3.24	0.16 \pm 0.00	0.45 \pm 0.09	59.13 \pm 3.20	1.16 \pm 0.03
<i>Prx1</i> -cKO	1.77 \pm 0.35	0.57 \pm 0.07	32.51 \pm 2.56	0.11 \pm 0.01	0.40 \pm 0.08	13.45 \pm 13.42	1.11 \pm 0.01
Tibia							
WT	1.87 \pm 0.18	0.69 \pm 0.07	36.86 \pm 0.75	0.14 \pm 0.00	0.35 \pm 0.11	49.59 \pm 1.93	1.17 \pm 0.02
<i>Col1a1</i> -cKO	1.88 \pm 0.22	0.50 \pm 0.06	26.59 \pm 2.80	0.09 \pm 0.01	0.29 \pm 0.09	40.34 \pm 24.91	1.08 \pm 0.02
WT	1.89 \pm 0.31	0.76 \pm 0.04	40.73 \pm 4.55	0.14 \pm 0.00	0.46 \pm 0.10	50.49 \pm 5.05	1.12 \pm 0.01
<i>Prx1</i> -cKO	1.58 \pm 0.24	0.46 \pm 0.01	30.09 \pm 4.79	0.10 \pm 0.00	0.20 \pm 0.01	2.06 \pm 1.79	1.01 \pm 0.04

HA= Hydroxyapatite

T.Ar = Cross-sectional tissue area

B.Ar = Cross-sectional cortical bone area

B.Ar/T.Ar = Cortical bone area fraction

Cs.Th = Cross-sectional bone thickness

MMI = Polar moment of inertia

Ct.Po = cortical porosity

TMD = Tissue mineral density