**Supplementary Table 1.** Bone mineral density, femoral shaft thickness, and serum bone metabolism markers ($\bar{x}$ ± SD).

| *Parameter* | **Blank Group** | **Sham Operation Group** | **Model Group** | **Acupuncture Group** | **F value** | **P value** |
|---|---|---|---|---|---|---|
| *Baseline measurements* | | | | | | |
| *BMD (g/cm$^2$)* | 0.203±0.007 | 0.204±0.006 | 0.202±0.008 | 0.203±0.007 | 0.42 | 0.74 |
| *Femoral shaft thickness (mm)* | 1.85±0.12 | 1.87±0.11 | 1.86±0.13 | 1.84±0.12 | 0.18 | 0.91 |
| *3-month measurements* | | | | | | |
| *Raw BMD (g/cm$^2$)* | 0.206±0.008 | 0.204±0.006 | 0.153±0.015*** | 0.179±0.010*$^{\#\#\#}$ | 233.7 | <0.001 |
| *Femoral shaft thickness (mm)* | 1.88±0.09 | 1.88±0.10 | 1.62±0.14** | 1.74±0.13*$^{\#}$ | 28.4 | <0.001 |
| *Adjusted BMD (g/cm$^2$)* | 0.206±0.008 | 0.204±0.006 | 0.156±0.014*** | 0.184±0.011*$^{\#\#}$ | 185.6 | <0.001 |
| *OPG (pg/ml)* | 1058.06±278.60 | 1057.90±261.82 | 229.42±107.68*** | 691.90±213.06$^{\#\#\#}$ | 24.348 | <0.001 |
| *RANKL (pg/ml)* | 61.89±22.07 | 64.57±22.41 | 187.82±39.37*** | 109.80±31.59$^{\#\#}$ | 31.279 | <0.001 |
| *β-CTX (ng/ml)* | 6.81±2.00 | 6.90±1.87 | 16.10±3.97*** | 12.17±3.04$^{\#\#}$ | 20.811 | <0.001 |
| *PINP (ng/ml)* | 20.46±6.78 | 19.31±7.73 | 67.87±15.94*** | 44.39±9.36$^{\#\#}$ | 37.898 | <0.001 |

Data are presented as mean ± SD, n=8. *** P<0.001, ** P<0.01, * P<0.05 vs. Sham operation group; $^{\#\#\#}$ P<0.001, $^{\#\#}$ P<0.01, $^{\#}$ P<0.05 vs. Model group.

**Supplementary Table 2.** Statistical analysis of BMI in each group of rats at different time points ($\bar{x}$ ± SD, g/cm$^2$).

| | **Adaptation** | **Modeling** | **Treatment** | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *Week* | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 |
| ***A:** Blank group* | 0.783±0.01 | 0.767±0.015 | 0.76±0.017 | 0.748±0.018 | 0.737±0.017 | 0.726±0.014 | 0.721±0.015 | 0.713±0.009 | 0.696±0.011 | 0.693±0.016 | 0.681±0.014 | 0.669±0.011 | 0.662±0.011 | 0.654±0.016 | 0.655±0.011 |
| ***B:** Sham operation group* | 0.773±0.012 | 0.771±0.012 | 0.766±0.01 | 0.757±0.016 | 0.756±0.019 | 0.745±0.014 | 0.722±0.012 | 0.703±0.011 | 0.686±0.013 | 0.683±0.013 | 0.666±0.013 | 0.661±0.008 | 0.654±0.011 | 0.651±0.012 | 0.658±0.013 |
| ***C:** Model group* | 0.761±0.016 | 0.776±0.013 | 0.836±0.014 | 0.884±0.03 | 0.925±0.015 | 0.952±0.015 | 0.977±0.019 | 0.992±0.021 | 1.015±0.025 | 1.03±0.025 | 1.061±0.033 | 1.084±0.028 | 1.111±0.028 | 1.123±0.026 | 1.148±0.022 |
| ***D:** Acupuncture group* | 0.759±0.012 | 0.769±0.011 | 0.831±0.012 | 0.885±0.01 | 0.915±0.013 | 0.919±0.023 | 0.909±0.041 | 0.906±0.041 | 0.907±0.037 | 0.903±0.038 | 0.895±0.034 | 0.885±0.024 | 0.881±0.027 | 0.863±0.026 | 0.854±0.02 |
| *P value B vs. C* | 0.091 | 0.107 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| *P value B vs. D* | 0.025 | 0.419 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| *P value C vs. D* | 0.347 | 0.115 | 0.067 | 0.447 | 0.076 | 0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |