Supplement Table 5. Biomechanical properties of femora.

	AIN76A	AIN76A+AQ	HFWD	HFWD+AQ
5 Months				
Yield load (N)	22.0 ± 2.8[c]	21.1 ± 2.9	16.8 ± 4.0	21.0 ± 3.0[a]
Max load (N)	29.0 ± 3.6	28.2 ± 2.4	27.7 ± 3.8	24.6 ± 2.6[b]
Stiffness (N/mm)	224 ± 20[c]	215 ± 33	178 ± 34	218 ± 23[a]
Energy (Nmm)	4.8 ± 1.8[c]	4.1 ± 2.2	9.1 ± 3.3	2.2 ± 0.9[a, b]
Displacement ratio	2.3 ± 0.6[c]	2.3 ± 0.9	4.5 ± 1.6	1.6 ± 0.4[a, b]
12 Months				
Yield load (N)	21.3 ± 2.6	20.4 ± 3.2	19.6 ± 5.4	17.7 ± 4.6
Max load (N)	25.2 ± 2.5[c]	28.4 ± 2.8[d]	35.2 ± 5.5	21.8 ± 5.7[a]
Stiffness (N/mm)	256 ± 25[c]	247 ± 37	210 ± 36	213 ± 34[b]
Energy (Nmm)	1.9 ± 0.6[c]	3.5 ± 1.4[d]	12.0 ± 5.7	1.7 ± 1.1[a]
Displacement ratio	1.6 ± 0.5[c]	2.3 ± 0.6[d]	4.6 ± 1.7	1.6 ± 0.8[a]
18 Months				
Yield load (N)	18.3 ± 2.9	18.9 ± 3.8	15.7 ± 3.8	16.2 ± 2.4[b]
Max load (N)	23.5 ± 3.6[c]	27.1 ± 3.3[d]	27.5 ± 5.7	21.5 ± 2.6[a]
Stiffness (N/mm)	191 ± 22[c]	212 ± 36	154 ± 43	166 ± 28[b]
Energy (Nmm)	2.7 ± 1.2[c]	4.3 ± 2.1[d]	6.9 ± 3.6	3.4 ± 2.7[a]
Displacement ratio	1.9 ± 0.6[c]	2.4 ± 0.9	3.7 ± 1.6	2.3 ± 1.2[a]

Each femur was subjected to biomechanical testing. Long-bone mechanical properties were determined by loading the left femora to failure in 4-point bending. With each bone, 5 bone strength parameters were assessed. Values are means and standard deviations. Statistical significance was determined by ANOVA followed by paired group comparisons ($p<0.05$). "a" and "b" are placed on the HFWD+AQ group: "a" shows statistically significant difference relative to the HFWD group, "b" shows statistically significant difference relative to AIN76A; "c" is placed on the AIN76A shows significant difference relative to the HFWD and "d" is placed on the AIN76A+AQ shows significant difference relative to AIN76A. Data are based on 10 male mice in each diet group at 5 and 12 months while 15 mice at 18 months.