

**Supplement Table 7.** Biomechanical properties of Caudal 8 vertebrae at 18 month.

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	Zero Time	HFWD	HFWD+AQ
Stiffness (N/mm)	37 ± 11	215 ± 85	320 ± 80 <sup>a</sup>
Max load (N)	9 ± 2	54 ± 17	76 ± 8 <sup>a</sup>
Displacement ratio (mm)	0.56 ± 0.22	0.25 ± 0.13	0.31 ± 0.17
Total Work Ideal (Nmm)	5 ± 1	20 ± 4	34 ± 13 <sup>a</sup>

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Each Caudal 8 vertebra was subjected to biomechanical testing. With each vertebra, 4 parameters were assessed. Values are means and standard deviation. Statistical significance was determined by paired group comparisons ( $p < 0.05$ ). “a” is placed on the HFWD+AQ group which shows statistically significant difference relative to the HFWD group. Vertebral data are based on 10 male mice in both diet groups at 18 months. Zero time mice ( $n=5$ ) were 4 weeks old.