Dietary countermeasure mitigates simulated spaceflight-induced osteopenia in mice

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Supplementary Table 1. Average body weights during the experiment. Average body weights were measured throughout the duration of the experiment for all treatment groups. Data shown are mean +/- S.D. (n=10/group).

|                               | Day -14       | Day -7       | Day 0        | Day 3        | Day 6        | Day 9        | Day 14       |
|-------------------------------|---------------|--------------|--------------|--------------|--------------|--------------|--------------|
| **Control Diet**              |               |              |              |              |              |              |              |
| NL                            | 28.17 ± 2.46  | 27.67 ± 2.47 | 27.77 ± 2.77 | 28.81 ± 3.24 | 29.96 ± 3.34 | 30.73 ± 3.57 | 30.79 ± 3.60 |
| NL + IR                       | 28.62 ± 2.29  | 28.68 ± 2.74 | 28.69 ± 2.63 | 29.67 ± 2.94 | 29.01 ± 2.47 | 29.27 ± 2.47 | 30.19 ± 2.70 |
| HU                            | 27.80 ± 0.79  | 27.40 ± 0.66 | 27.89 ± 0.52 | 26.69 ± 0.70 | 26.27 ± 0.73 | 26.22 ± 0.82 | 26.23 ± 0.89 |
| HU + IR                       | 27.30 ± 0.43  | 27.56 ± 0.43 | 27.96 ± 1.14 | 26.93 ± 1.08 | 25.21 ± 1.11 | 25.61 ± 1.25 | 26.01 ± 1.05 |
| **Dried Plum Diet**           |               |              |              |              |              |              |              |
| NL                            | 28.79 ± 0.41  | 29.22 ± 0.63 | 29.24 ± 0.81 | 29.55 ± 1.06 | 29.85 ± 0.99 | 30.51 ± 0.95 | 30.16 ± 1.23 |
| NL + IR                       | 28.02 ± 1.55  | 29.08 ± 1.56 | 28.79 ± 1.50 | 29.15 ± 1.70 | 28.26 ± 1.51 | 28.54 ± 1.83 | 28.87 ± 1.79 |
| HU                            | 28.03 ± 1.52  | 28.10 ± 1.73 | 27.69 ± 1.43 | 26.70 ± 1.64 | 26.34 ± 1.36 | 26.26 ± 1.59 | 26.34 ± 1.46 |
| HU + IR                       | 27.85 ± 1.79  | 28.22 ± 1.71 | 27.65 ± 1.42 | 26.69 ± 1.09 | 25.62 ± 1.09 | 25.26 ± 1.09 | 25.67 ± 0.99 |

Supplementary Table 2. Baseline cancellous tibial microCT after 17 days of prefeeding. Mice were separated into groups (n=7-8/group) and fed specific diets for 17 days (either Control Diet or Dried Plum diet) while housed in standard cages. Tibiae were analyzed by microCT for cancellous bone parameters such as bone volume fraction (BV/TV), trabecular thickness (Tb.Th), trabecular separation (Tb.Sp), and trabecular number (Tb.N). Data shown are mean +/- S.D. *indicates p<0.05 by student t-test.

|                                | CD | DP | T-test |
|--------------------------------|----|----|--------|
| **Tibia Baseline Cancellous**   |    |    |        |
| BV/TV (%)                      | 24.7 ± 3.4 | 26.5 ± 4.5 | p = 0.4 |
| Tb.Th (mm)                     | 0.061 ± 0.0007 | 0.065 ± 0.0044 | p = 0.04* |
| Tb.Sp (mm)                     | 0.149 ± 0.017 | 0.151 ± 0.018 | p = 0.7 |
| Tb. N (1/mm)                   | 4 ± 0.56 | 4.1 ± 0.55 | p = 0.95 |