

# Resource Summary Report

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## Protocols for "Linking gut microbiome to bone mineral density: a shotgun metagenomic dataset from 361 elderly women"

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### Protocol Information

**URL:** <https://dx.doi.org/10.17504/protocols.io.bq9kmz4w>

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**Group:** BGI, GIGA, GigaScience Press

**Summary:** Bone mass loss contributes to the risk of bone fracture in the elderly. Many factors including age, obesity, estrogen and diet, are associated with bone mass loss. Mice studies suggested that the gut microbiome might affect the bone mass by regulating the immune system, however there has been little evidence from human studies. Bone loss increases after menopause. Therefore, we have recruited 361 Chinese post-menopausal women to collect their fecal samples and metadata to conduct metagenome-wide association study (MWAS) to investigate the influence of the gut microbiome on bone health. Gut microbiome sequencing data were produced using BGISEQ500 sequencing, Bone mineral density (BMD) was calculated using Hologic dual energy X-ray machine, body mass index (BMI) and age were also recorded. This collected data allows exploration of the gut microbial diversity and their links to bone mass loss, as well as microbial markers for bone mineral density. In addition, these data are potentially useful in studying the role the gut microbiota might play in bone mass loss and in exploring the bone mass loss process.

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