

**Supplementary Table 3.** Association between fat mass and obesity-related transcript genotypes of rs1558902 and bone mineral density, bone loss and fracture

| I. BMD <sup>a)</sup>                 |                |                      |                          |                        |                                      |                         |
|--------------------------------------|----------------|----------------------|--------------------------|------------------------|--------------------------------------|-------------------------|
|                                      | AA (N=201)     | TA (N=593)           | TT <sup>b)</sup> (N=417) | TA vs. TT              | AA vs. TT                            | TA vs. AA               |
| FN BMD (g/cm <sup>2</sup> )          | 0.79 ± 0.13    | 0.81 ± 0.13          | 0.79 ± 0.13              | 0.014 (-0.001, 0.028)  | -0.002 (-0.022, 0.017)               | -0.016 (-0.034, 0.002)  |
| LS BMD (g/cm <sup>2</sup> )          | 1.04 ± 0.21    | 1.04 ± 0.19          | 1.05 ± 0.19              | -0.007 (-0.030, 0.016) | -0.005 (-0.036, 0.026)               | 0.002 (-0.027, 0.032)   |
| II. Rate of BMD change <sup>a)</sup> |                |                      |                          |                        |                                      |                         |
|                                      | AA             | TA                   | TT <sup>b)</sup>         | TA vs. TT              | AA vs. TT                            | TA vs. AA               |
| FN BMD (g/cm <sup>2</sup> /year)     | -0.004 ± 0.007 | -0.004 ± 0.004       | -0.004 ± 0.004           | <0.001 (-0.001, 0.001) | <-0.001 (-0.001, 0.001)              | <-0.001 (-0.001, 0.001) |
| LS BMD (g/cm <sup>2</sup> /year)     | 0.002 ± 7.26   | 0.002 ± 0.007        | 0.002 ± 0.006            | <0.001 (-0.001, 0.002) | <0.001 (-0.001, 0.002)               | <-0.001 (-0.002, 0.001) |
| III. Fractures                       |                |                      |                          |                        |                                      |                         |
|                                      | Variables      | Number <sup>c)</sup> | Age adjusted             |                        | Multivariable adjusted <sup>d)</sup> |                         |
|                                      |                |                      | HR (95% CI)              | P-value                | HR (95% CI)                          | P-value                 |
| Any fracture                         | AA (N=204)     | 98 (47.6)            | 1.02 (0.80–1.31)         | 0.85                   | 1.03 (0.81–1.32)                     | 0.80                    |
|                                      | TA (N=603)     | 268 (47.9)           | 1.03 (0.86–1.23)         | 0.78                   | 1.07 (0.89–1.28)                     | 0.48                    |
|                                      | TT (N=426)     | 201 (47.2)           | Reference                | -                      | Reference                            | -                       |
| Hip fracture                         | AA (N=204)     | 32 (15.7)            | 1.47 (0.94–2.31)         | 0.09                   | 1.54 (0.98–2.42)                     | 0.06                    |
|                                      | TA (N=603)     | 65 (10.8)            | 0.93 (0.64–1.36)         | 0.72                   | 1.00 (0.69–1.46)                     | 1.00                    |
|                                      | TT (N=426)     | 48 (11.3)            | Reference                | -                      | Reference                            | -                       |

<sup>a)</sup>Values for BMD and rate of bone change are presented as mean ± standard deviation. The association between fat mass and obesity-related transcript genotype and bone mineral density (BMD) and bone loss are presented as mean difference (95% confidence interval [CI]) derived from a multivariable linear regression (I. BMD) or mixed-effects regression (II. bone loss), adjusted for age and body mass index (BMI).

<sup>b)</sup>Reference genotype: TT.

<sup>c)</sup>The data is presented as N (%) and indicates the number of patients with a fracture.

<sup>d)</sup>Adjusted for age, femoral neck BMD and BMI.

FN, femoral neck; LS, lumbar spine; HR, hazard ratio.