

Table S7. Associations between sulfate-lowering SNVs, and bone mineral density (BMD) measurements.

Trait	Sulfate-lowering SNV(s)	n	Het.	Hom.	$\beta_{\text{SNV}} \pm \text{SE}$	$\beta_{\text{SNV}}/\text{Mean}_{\text{WT}}$	P_{SNV}
Mid-arm BMD (g/cm ²)	<i>SLC13A1</i> R12X or W48X	680	20	0	-0.02 ± 0.01	-0.04	0.08
	<i>SLC26A1</i> L348P	646	70	6	-0.01 ± 0.01	-0.02	0.03
Mid-arm Z-Score	<i>SLC13A1</i> R12X or W48X	680	20	0	-0.45 ± 0.24	-0.48	0.07
	<i>SLC26A1</i> L348P	646	70	6	-0.22 ± 0.12	-0.23	0.06
1/3-arm BMD (g/cm ²)	<i>SLC13A1</i> R12X or W48X	680	20	0	-0.03 ± 0.02	-0.04	0.08
	<i>SLC26A1</i> L348P	646	70	6	-0.02 ± 0.01	-0.02	0.03
1/3-arm Z-Score	<i>SLC13A1</i> R12X or W48X	680	20	0	-0.50 ± 0.25	-0.55	0.04
	<i>SLC26A1</i> L348P	646	70	6	-0.22 ± 0.12	-0.24	0.06
Total-arm BMD (g/cm ²)	<i>SLC13A1</i> R12X or W48X	680	20	0	-0.02 ± 0.01	-0.04	0.06
	<i>SLC26A1</i> L348P	646	70	6	-0.02 ± 0.01	-0.02	0.01
Total-arm Z-Score	<i>SLC13A1</i> R12X or W48X	680	20	0	-0.47 ± 0.24	-0.51	0.05
	<i>SLC26A1</i> L348P	646	70	6	-0.24 ± 0.11	-0.25	0.04
Ultra-distal-arm BMD (g/cm ²)	<i>SLC13A1</i> R12X or W48X	680	20	0	-0.02 ± 0.01	-0.03	0.26
	<i>SLC26A1</i> L348P	646	70	6	-0.01 ± 0.01	-0.03	0.03
Ultra-distal-arm Z-Score	<i>SLC13A1</i> R12X or W48X	680	20	0	-0.29 ± 0.24	-0.40	0.23
	<i>SLC26A1</i> L348P	646	70	6	-0.24 ± 0.12	-0.32	0.04
Femoral neck BMD (g/cm ²)	<i>SLC13A1</i> R12X or W48X	681	20	0	-0.02 ± 0.03	-0.02	0.46
	<i>SLC26A1</i> L348P	647	70	6	-0.02 ± 0.01	-0.02	0.26
Femoral neck Z-Score	<i>SLC13A1</i> R12X or W48X	681	20	0	-0.20 ± 0.24	-0.37	0.42
	<i>SLC26A1</i> L348P	647	70	6	-0.12 ± 0.11	-0.23	0.30
Intertrochanter BMD (g/cm ²)	<i>SLC13A1</i> R12X or W48X	680	20	0	-0.04 ± 0.04	-0.03	0.35
	<i>SLC26A1</i> L348P	646	70	6	-0.05 ± 0.02	-0.04	5.1x10⁻³
Intertrochanter Z-Score	<i>SLC13A1</i> R12X or W48X	680	20	0	-0.24 ± 0.22	-0.50	0.29
	<i>SLC26A1</i> L348P	646	70	6	-0.30 ± 0.11	-0.62	5.2x10⁻³
Total-hip BMD (g/cm ²)	<i>SLC13A1</i> R12X or W48X	681	20	0	-0.03 ± 0.03	-0.03	0.28
	<i>SLC26A1</i> L348P	647	70	6	-0.04 ± 0.01	-0.04	0.01
Total-hip Z-Score	<i>SLC13A1</i> R12X or W48X	681	20	0	-0.29 ± 0.23	-0.49	0.21
	<i>SLC26A1</i> L348P	647	70	6	-0.27 ± 0.11	-0.45	0.02
Trochanter BMD (g/cm ²)	<i>SLC13A1</i> R12X or W48X	680	20	0	-0.03 ± 0.03	-0.04	0.23
	<i>SLC26A1</i> L348P	646	70	6	-0.03 ± 0.01	-0.03	0.04
Trochanter Z-Score	<i>SLC13A1</i> R12X or W48X	680	20	0	-0.32 ± 0.23	-0.53	0.17
	<i>SLC26A1</i> L348P	646	70	6	-0.23 ± 0.11	-0.38	0.04
Total-spine BMD (g/cm ²)	<i>SLC13A1</i> R12X or W48X	679	20	0	-0.03 ± 0.03	-0.03	0.39
	<i>SLC26A1</i> L348P	645	70	6	-0.03 ± 0.02	-0.03	0.10
Total-spine Z-Score	<i>SLC13A1</i> R12X or W48X	679	20	0	-0.25 ± 0.29	-0.92	0.39
	<i>SLC26A1</i> L348P	645	70	6	-0.19 ± 0.14	-0.67	0.18
Whole-body BMD (g/cm ²)	<i>SLC13A1</i> R12X or W48X	679	20	0	-0.03 ± 0.02	-0.03	0.19
	<i>SLC26A1</i> L348P	645	69	6	-0.03 ± 0.01	-0.03	6.8x10⁻³

Adjusted for age and gender. Abbreviations: Het., heterozygotes; Hom., homozygotes; WT, wild type; SE, standard error.