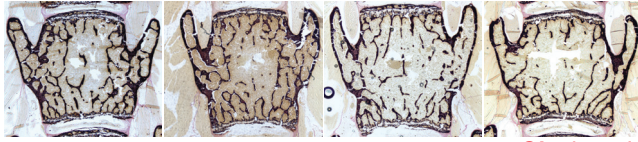


**A**

M.musculus Ser148: RIGGGG**S**VVDC  
 R.norvegicus Ser148: RIGGGG**S**VVDC  
 H.sapiens Ser148: RIGTGG**S**VVDC  
 P.troglodytes Ser148: RIGTGG**S**VVDC  
 B.taurus Ser148: RIGTGG**S**VVDC  
 G.gallus Ser148: RIGTGG**S**VVDC

**B**

	Score	Expectation	MD-score	Peptide Sequence
Ser148	80.25	0.0000011	37.47	R.IGTGG <b>S</b> VVDCR.G + Phospho (ST)

**C**

	<i>Glut1<sup>fl/fl</sup></i>	<i>Smurf1<sup>+/-</sup></i>	<i>Glut1<sup>ocn-/-</sup></i>	<i>Glut1<sup>ocn-/-</sup>; Smurf1<sup>+/-</sup></i>
BV/TV (%)	17.63 ± 0.62	16.76 ± 0.80	12.16 ± 0.76 <sup>#</sup>	12.53 ± 0.88 <sup>*</sup>
N.Ob/T.Ar	177.28 ± 8.29	150.82 ± 7.93	130.0 ± 6.95 <sup>*</sup>	112.0 ± 5.67 <sup>*</sup>
MAR (mm/y)	1.60 ± 0.05	1.64 ± 0.14	1.15 ± 0.09 <sup>*</sup>	1.22 ± 0.13 <sup>*</sup>
BFR/BS (μm <sup>3</sup> /μm <sup>2</sup> /y)	155.19 ± 17.40	143.17 ± 21.92	80.00 ± 10.27 <sup>*</sup>	86.49 ± 10.0 <sup>*</sup>

Figure S5