**Supplemental Table 1.** Descriptive Summary Statistics [Mean (95% CI)] among treatment arms in successfully treated population by biomarker and study week. RANKL: OPG ratio was calculated as RANKL pmol/L over OPG pmol/L to create unit-less ratio RANKL and OPG are presented on the log 10 scale.

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **N** | **Week 0** | **N** | **Week 48** | **N** | **Week 96** | **N** | **Δ (0-48)** | **N** | **Δ (0-96)** |
| **ATV/r** |  |  |  |  |  |  |  |  |  |  |
| **RANKL:OPG** | 66 | *0.56*  *(0.45, 0.67)* | 64 | *0.34*  *(0.23, 0.45)* | 66 | *0.27*  *(0.12, 0.43)* | (-) | (-) | (-) | (-) |
| **RANKL** | 68 | *1.42*  *(1.31, 1.54)* | 64 | *1.25*  *(1.15, 1.34)* | 66 | 1.00  (0.87, 1.13) | 64 | *0.71*  *(0.54, 0.94)* | 66 | *0.39*  *(0.27, 0.55)* |
| **OPG** | 66 | *0.58*  *(0.55, 0.62)* | 64 | *0.60*  *(0.57, 0.63)* | 66 | *0.65*  *(0.62, 0.68)* | 62 | 1.05  (0.96, 1.15) | 64 | *1.17*  *(1.06, 1.29)* |
| **RAL** |  |  |  |  |  |  |  |  |  |  |
| **RANKL:OPG** | 82 | *0.56*  *(0.43, 0.69)* | 80 | *0.44*  *(0.33, 0.55)* | 77 | *0.30*  *(0.23, 0.38)* | (-) | (-) | (-) | (-) |
| **RANKL** | 82 | *1.37*  *(1.26, 1.48)* | 80 | *1.34*  *(1.27, 1.42)* | 77 | *1.16*  *(1.05, 1.27)* | 80 | 0.93  (0.76, 1.14) | 77 | *0.59*  *(0.48, 0.72)* |
| **OPG** | 82 | *0.58*  *(0.54, 0.61)* | 80 | *0.58*  *(0.54, 0.62)* | 77 | *0.64*  *(0.60, 0.67)* | 80 | 1.0  (0.93, 1.09) | 77 | *1.15*  *(1.04, 1.26)* |
| **DRV/r** |  |  |  |  |  |  |  |  |  |  |
| **RANKL:OPG** | 80 | *0.47*  *(0.34, 0.60)* | *79* | *0.39*  *(0.23, 0.56)* | *77* | *0.25*  *(0.17, 0.32)* | (-) | (-) | (-) | (-) |
| **RANKL** | 81 | *1.35*  *(1.23, 1.46)* | *79* | *1.21*  *(1.10, 1.31)* | *77* | *1.06*  *(0.94, 1.18)* | 76 | *0.77*  *(0.63, 0.95)* | 75 | *0.53*  *(0.41, 0.70)* |
| **OPG** | 80 | *0.63*  *(0.61, 0.66)* | *79* | *0.61*  *(0.58, 0.64)* | *77* | *0.68*  *(0.65, 0.71)* | 75 | 0.95  (0.89, 1.03) | 74 | *1.11*  *(1.03, 1.20)* |

Δ (0-48): **Week 48-fold change from baseline**

Δ (0-96): **Week 96-fold change from baseline**

**Supplemental Table 2.** Pairwise treatment group comparisons in absolute difference by mean (97.5% CI)in RANKL: OPG Ratio among treatment arms in successfully treated persons by biomarker and study week.

|  | **Week 48** | | **Week 96** | |
| --- | --- | --- | --- | --- |
|  | **Mean (97.5% CI)** | **p** | **Mean (97.5% CI)** | **p** |
| **ATV/r vs. RAL** | -0.10 (-0.28, 0.07) | 0.13 | -0.03 (-0.22, 0.16) | 0.05 |
| **ATV/r vs. DRV/r** | -0.06 (-0.29, 0.18) | 0.70 | 0.03 (-0.16, 0.22) | 0.67 |
| **RAL vs. DRV/r** | 0.05 (-0.18, 0.27) | 0.06 | 0.05 (-0.07, 0.18) | 0.11 |

*P= p-values using Wilcoxon rank sum test*

**Supplemental Figure 1.** Early and Late Changes in plasma RANKL/OPG ratio markers by treatment arm in successfully treated population.

*Point estimates and error bars reflect mean and 95% confidence intervals, respectively.*  
*Early change represents change from baseline to week 24; late change represents change from baseline to week 96.*

*ATV/r = Atazanavir/Ritonavir, DRV/r = Darunavir/ Ritonavir, RAL = Raltegravir*

