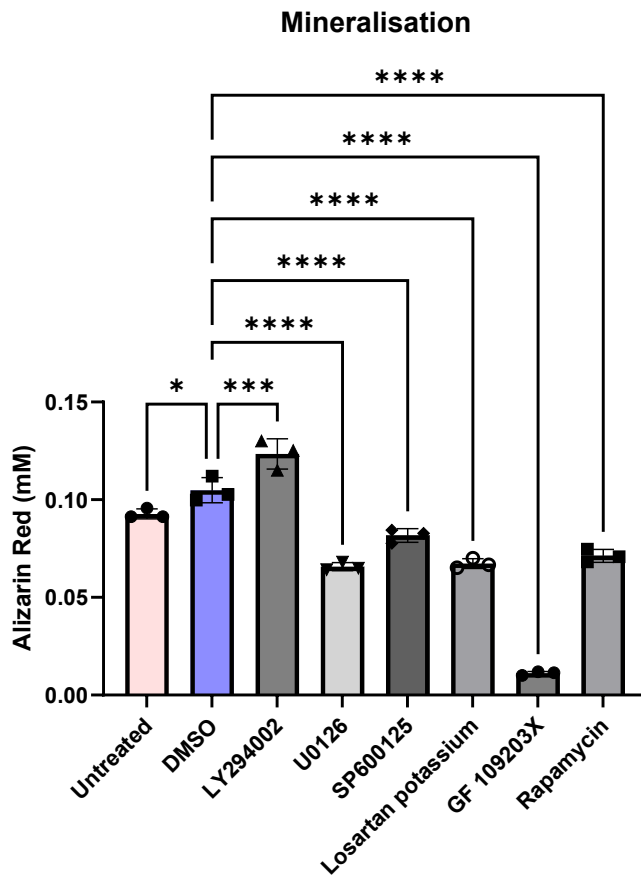
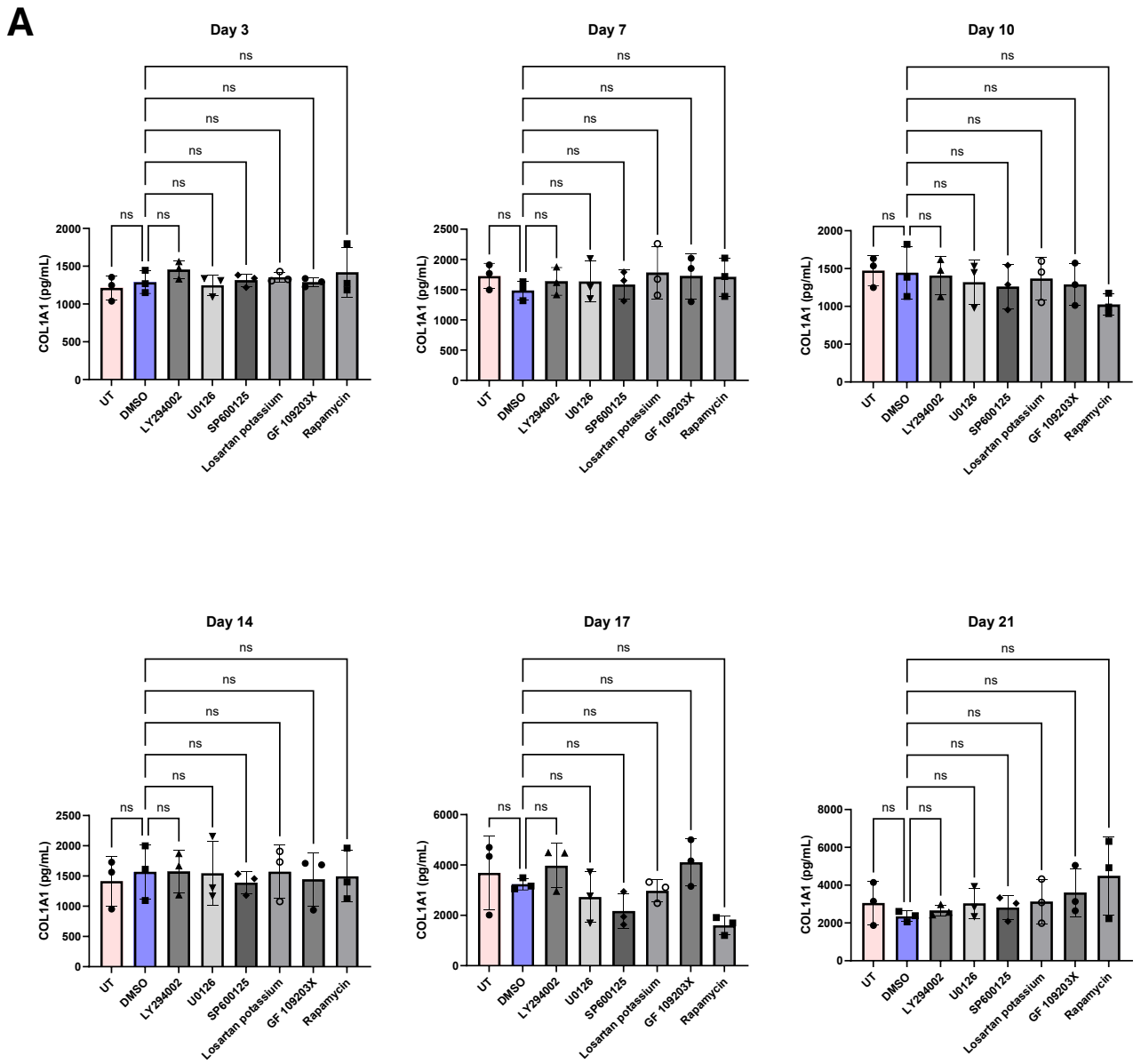


Supplementary Figure 1. Stage 1 functional outputs of high content screen. (A) Effects on cell viability for compounds whose vehicle control is DMSO, (B) ethanol and (C) water after 24 hours treatment (n = 3). (D) Effects on ALP activity for compounds whose vehicle control is DMSO, (E) ethanol and (F) water after 24 hours treatment (n = 9). (G) Effects on OPG secretion for compounds whose vehicle control is DMSO, (H) ethanol and (I) water after 24 hours treatment (n = 5). Statistics: (A - I) were assessed by One-way ANOVA with Dunnett's multiple comparisons post test where $P < 0.05 = *$, $P < 0.01 = **$, $P < 0.001 = ***$, $P < 0.0001 = ****$.

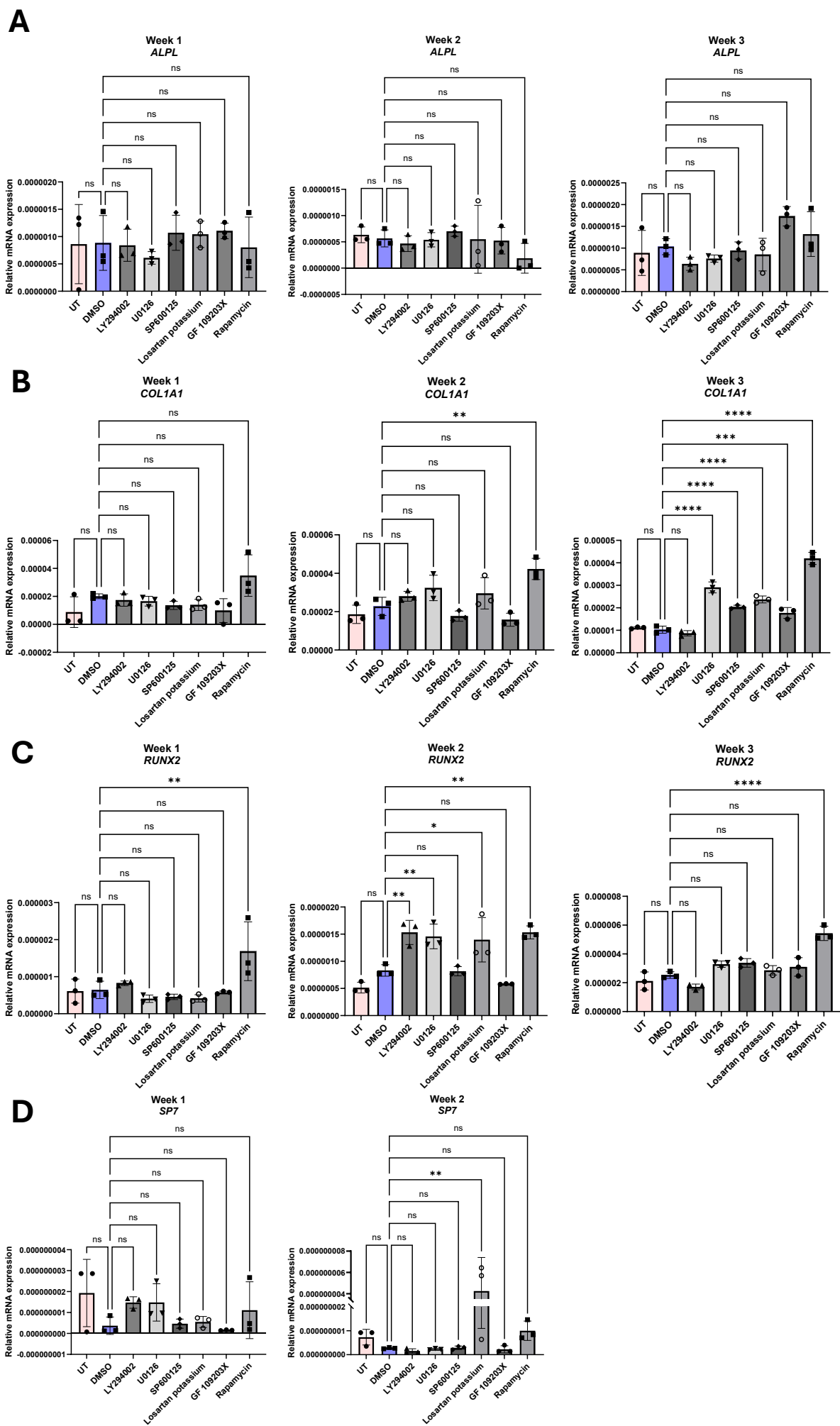
A



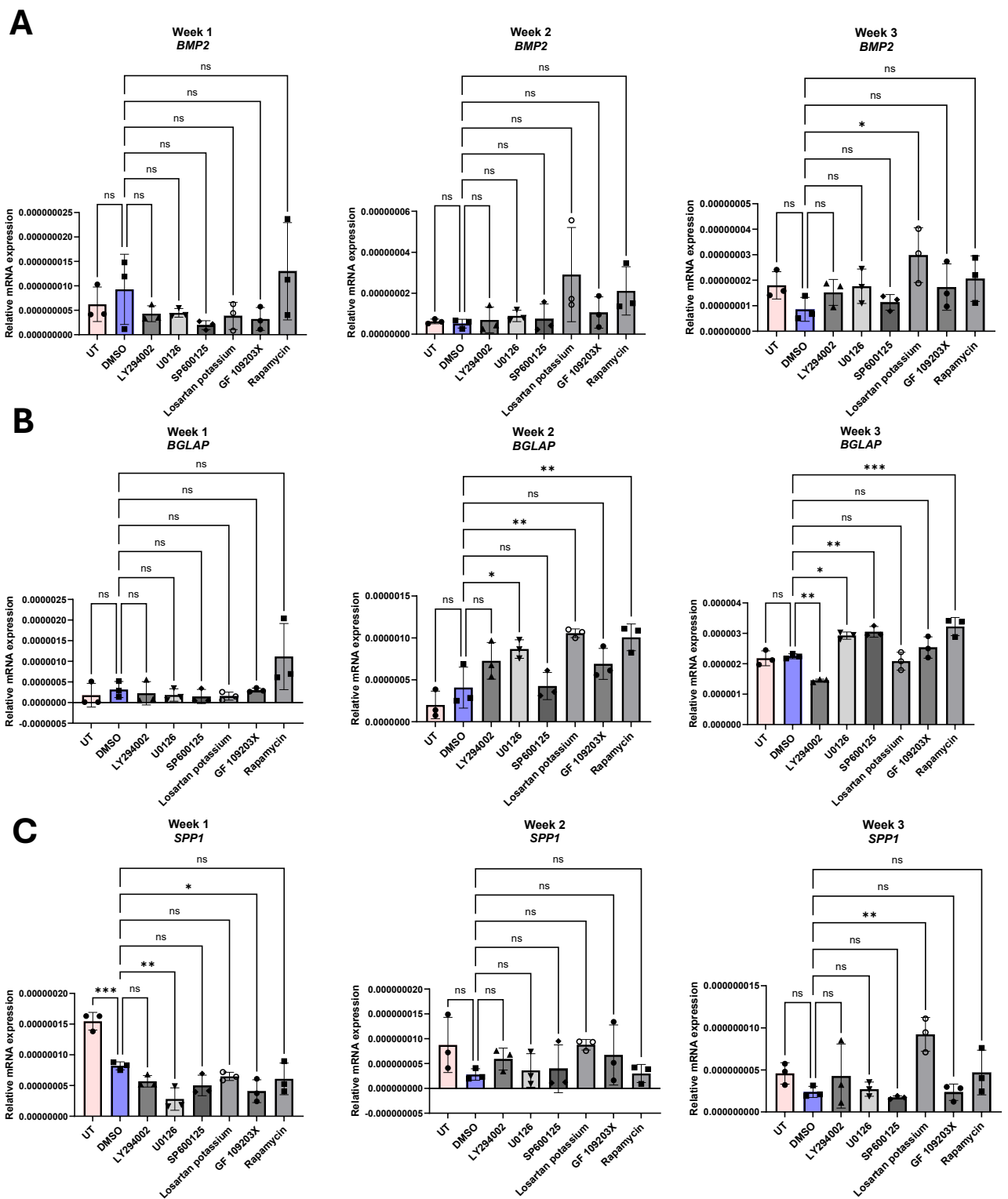
Supplementary Figure 2. Stage 2 functional outputs of high content screen: mineralisation. (A) Effects of compounds on mineralisation ability after 21 days of treatment (n=3). Statistics: (A) was assessed by One-way ANOVA with Dunnett's multiple comparisons post test where $P < 0.05 = *$, $P < 0.01 = **$, $P < 0.001 = ***$, $P < 0.0001 = ****$.



Supplementary Figure 3. Stage 2 functional outputs of high content screen: collagen secretion. (A) Effects of compounds on COL1A1 secretion from day 3 to day 21 of treatment (n=3). Statistics: (A) was assessed by One-way ANOVA with Dunnett's multiple comparisons post test where $P < 0.05 = *$, $P < 0.01 = **$, $P < 0.001 = *$, $P < 0.0001 = ****$.**



Supplementary Figure 4. Stage 2 functional outputs of high content screen: osteoblast differentiation. (A) Effects of compounds on gene expression of ALPL, (B) COL1A1, (C) RUNX2 and (D) SP7 at weeks 1, 2 and 3 of treatment (n=3). Data is presented as relative expression after normalisation to housekeeping gene 18S. Statistics: (A-D) were assessed by One-way ANOVA with Dunnett's multiple comparisons post test where $P < 0.05 = *$, $P < 0.01 = **$, $P < 0.001 = ***$, $P < 0.0001 = ****$.



Supplementary Figure 5. Stage 2 functional outputs of high content screen: mineralisation initiation. (A) Effects of compounds on gene expression of BMP2, (B) BGLAP and (C) SPP1 at weeks 1, 2 and 3 of treatment (n=3). Data is presented as relative expression after normalisation to housekeeping gene 18S. Statistics: (A) was assessed by One-way ANOVA with Dunnett's multiple comparisons post test where $P < 0.05 = *$, $P < 0.01 = **$, $P < 0.001 = ***$, $P < 0.0001 = ****$.