Impact of P. gingivalis Derived RagA and RagB on Osteoclastogenesis

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The goal of this experiment was to find out whether P. gingivalis derived RagA can bind OC- stamp and promote the RANKL induced osteoclastogenesis. I did this by using RAW 264.5 murine cells and conducting two protocols where I use different concentrations of RagA and RagB as treatments. These treatments and protocols were done using 96 well plates, utilizing cell cultures, and seeding procedures. The osteoclastogenesis induced by the treatments, will be compared to RANKL and Media, my controls. RANKL is known to be a factor that promotes osteoclastogenesis, which is why it is the positive control. By using concentrations 0.1, 1, 10, and 100 ng/mL of RagA and RagB (with RANKL), osteoclastogenesis was not promoted as much as RANKL, however once independent from RANKL, the promotion of OC genesis was significant compared to RANKL. This means that RagA is in an inflammatory factor, but the reason as to why it only promotes osteoclastogenesis when independent from RANKL remains elusive.

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