

Osteocytes regulate osteoblast differentiation and osteoclast activity through Interleukin-6 under mechanical loading

Received 00th January 20xx,
Accepted 00th January 20xx

DOI: 10.1039/x0xx00000x

www.rsc.org/

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Supplementary Data

As shown in Fig. A and Fig. B, the ERK1/2 signaling pathway was also involved in osteocyte-stimulated osteoblast proliferation. The P-ERK1/2/ERK ratio increased when murine calvarial osteoblasts were exposed to CCF CM and/or IL-6 and sIL-6R. This induction was inhibited by the addition of an IL-6-neutralizing antibody. The ERK1/2 signal specific inhibitor, U0126, blocked IL-6-induced p-ERK1/2 expression. However, upregulation of the osteogenic response (Fig. C and D) was not reversed by U0126. These results indicate that ERK1/2 is activated by IL-6 for osteoblast differentiation, whereas it is not essential for the IL-6 stimulation of the osteogenic response.

