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Synthesis and Inhibition of RANKL-induced Osteoclastogensis of Indeno[1,2-c]quinoline Derivatives

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Certain indeno[1,2-*c*]quinolines were synthesized and evaluated for anti-osteoclastogenic activities. Among them, 6,9-dimethoxy-11*H*-indeno[1,2-*c*]-quinolin-11-one (**8a**) and 9-methoxy-6-(methylthio)-11*H*-indeno[1,2-*c*] quinolin-11-one (**16a**) inhibited RANKL-induced osteoclast formation in Raw 264.7 cells with an IC_{50} of 2.00 and 2.58 M respectively. Compound **8a** was only weekly active in the inhibition of the RANKL-induced NFAT activation while **16a** was inactive. These results indicated that the anti-osteoclastogenic effect of **8a** is only partly related while **16a** is not related to the suppression of NFAT.