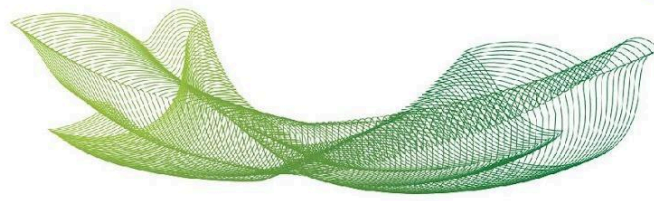


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Título	Bioactive Compounds from Propolis on Bone Homeostasis A Narrative Review
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Resumo	<p>This narrative review explores the potential effects of Propolis and its bioactive compounds on bone health. Propolis, a resinous product collected by bees, is renowned for its antimicrobial, anti-inflammatory, and antioxidant properties. Recent research emphasizes its positive role in osteogenesis, primarily through the modulation of osteoclast and osteoblast activity via molecular pathways. Key mechanisms include reducing inflammatory cytokines, protecting against oxidative stress, and upregulating growth factor essential for bone formation. While compounds such as Caffeic Acid Phenethyl Ester, Apigenin, Quercetin, and Ferulic Acid have been well-documented, emerging evidence points to the significant roles of less-studied compounds like Pinocembrin, Kaempferol, p-Coumaric acid, and Galangin. This review synthesizes the current literature, focusing on the mechanisms by which these bioactive compounds influence osteogenesis. Firstly, it explores the techniques for characterizing bioactive compounds presented in propolis, the chemogeographic variations in its composition, and the effects of both crude extracts and isolated compounds on bone tissue, offering a comprehensive analysis of recent findings across different experimental models. Further, it discusses the effects of Propolis compounds on bone health. In summary, these compounds modulate signaling pathways, including nuclear factor kappa beta, wingless-related integration site, mitogen-activated protein kinase, vascular endothelial growth factor, and reactive oxygen species. These pathways influence the receptor activator of nuclear factor kappa-β/receptor activator of nuclear factor kappa-β ligand/osteoprotegerin system, fostering bone cell differentiation. This regulation mitigates excessive osteoclast formation, stimulates osteoblast activity, and ultimately contributes to the restoration of bone homeostasis by maintaining a balanced bone remodeling process.</p>



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Fomento	-
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