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The effect of Eucomis autumnalis on bone formation markers in vitro

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Medicinal plants have been used to treat diseases for centuries. Africa is rich in natural medicinal resources and it has been estimated that over 60% of Africans make use of medicinal plants that they obtain from traditional healers. The genus Eucomis is endemic to southern Africa and is part of the Hyacinthaceae family. The genus is one of the most widely used ethnomedicines by the Xhosa and the Zulu people of the Eastern Cape and Kwazulu Natal provinces of South Africa respectively. Of the ten species within the genus, Eucomis *autumnalis* (Mill.) Chitt. subspecies *autumnalis*, is the most commonly used herbal remedy for postoperative recovery and the treatment of bone fractures. Its vernacular name is Umathunga, literally meaning 'to sew (bone) together'. Medicinal plants may provide a safe and cost effective alternative treatment for bone fracture, decreasing the time it takes for the patient to return to full activity. This will benefit the patient and the economy, especially in developing countries. No studies have been found investigating the potential osteoinductive activity of E. *autumnalis* in C2C12 cells, a mouse myoblast cell line. The main aim of this study is to scientifically investigate the effect that E. *autumnalis* has on bone regeneration. ELISA was used to assess the BMP-2 and ALP production and RT-PCR was used to determine expression levels of target genes involved in bone formation.

Biography

Nolutho Mkhumbeni is a PhD candidate at the Tshwane University of Technology in South Africa. She is an accredited Medical Technologist and currently works as a Lecturer in Biomedical Technology at the Vaal University of Technology, South Africa.

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