



Scienxt Journal of Biotechnology and Life Sciences
Year-2023 || Volume-1 || Issue-2 || July-Dec || pp. 33-58

Application of bromelain enzyme in cosmetics using pineapple peel

Saleth Martina. J

Microbiologist, Hindusthan college of arts and Coimbatore, Tamil Nadu, India

**Corresponding Author: Saleth Martina J.
Email: salethmartina51@gmail.com*

Abstract:

Bromelain, a protease of vegetal origin, is one of the most important enzymes in the proteolytic process. It has been isolated from pineapple waste parts and its effects on bacterial pathogens like acne have been studied. This study aims to evaluate the anti-inflammatory properties of this enzyme and to develop a feasible process to purify it based on national technology where the big challenge is obtaining the enzyme and maintaining its stability during all steps involved and fractional precipitation has been used successfully to obtain biomolecules (longo et al., 2010). This study will help in waste recycling as well as make the whole process cost-effective. It will aid as a potent anti-inflammatory agent that will act as beneficial additive to the formulation. Bromelain is a protease from the pineapple plant, which is widely used in traditional medicine. It has been used as a defensive protein in various phytomedical applications, such as reversible inhibition of platelet aggregation, sinusitis, surgical traumas, thrombophlebitis, pyelonephriti angina pectoris and bronchitis, and enhanced glycemic control. It is one of the few plant proteases that can be extracted from a variety of plant components, including the fruit pulp, stem, peel, and leaves. It contains, among other compounds, various closely related proteinases, exhibiting various fibrinolytic, antiedematous, antithrombotic, and anti-inflammatory activities in vitro and in vivo. The crude pineapple aqueous extract is used to purify its defensive protein bromelaIN, which has a wide range of therapeutic benefits. The results of this study indicate that the crude extract from pineapple is considered to be the most efficient method for purifying its defensive proteins.

Keywords:

Pineapple, bromelain enzyme, Ananas comosus, phytotherapeutical agent, anti-inflammatory effect