Mini Review: Aspects of glucosamine production using microorganisms

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Abstract

Glucosamine (GlcN) is an amino monosaccharide that has physiological importance to the body. The amino sugar has a potential to prevent joint structure change in patients with osteoarthritis. This biomonomer is one of the building blocks of chitin and chitosan that are commonly present in crustacean shell waste and fungal cell walls. Because of the economical, environmental, and physiological disadvantages of using crustacean waste, the alternative source of GlcN production, namely microorganisms is being looked at. This paper presents the production of GlcN using microorganisms and focuses on the different fermentation systems for microorganism cultivation, the microorganisms commonly used and the characteristics of the produced chitinous material or GlcN, and the methods for GlcN isolation and quantification.

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