

## **Exploiting biological activities of brown seaweed *Ecklonia cava* for potential industrial applications: a review.**

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### **Abstract**

Seaweeds are rich in vitamins, minerals, dietary fibres, proteins, polysaccharides and various functional polyphenols. Many researchers have focused on brown algae as a potential source of bioactive materials in the past few decades. *Ecklonia cava* is a brown seaweed that is abundant in the subtidal regions of Jeju Island in the Republic of Korea. This seaweed attracted extensive interest due to its multiple biological activities. *E. cava* has been identified as a potential producer of wide spectrum of natural substances such as carotenoids, fucoidans and phlorotannins showing different biological activities in vital industrial applications including pharmaceutical, nutraceutical, cosmeceutical and functional food. This review focuses on biological activities of the brown seaweed *E. cava* based on latest research results, including antioxidant, anticoagulative, antimicrobial, antihuman immunodeficiency virus, anti-inflammatory, immunomodulatory, antimutagenic, antitumour and anticancer effects. The facts summarized here may provide novel insights into the functions of *E. cava* and its derivatives and potentially enable their use as functional ingredients in potential industrial applications.