

## **Theobroma cacao: review of the extraction, isolation, and bioassay of its potential anti-cancer compounds**

### **ABSTRACT**

Plants have been a good source of therapeutic agents for thousands of years; an impressive number of modern drugs used for treating human diseases are derived from natural sources. The *Theobroma cacao* tree, or cocoa, has recently garnered increasing attention and become the subject of research due to its antioxidant properties, which are related to potential anti-cancer effects. In the past few years, identifying and developing active compounds or extracts from the cocoa bean that might exert anti-cancer effects have become an important area of health- and biomedicine-related research. This review provides an updated overview of *T. cacao* in terms of its potential anti-cancer compounds and their extraction, in vitro bioassay, purification, and identification. This article also discusses the advantages and disadvantages of the techniques described and reviews the processes for future perspectives of analytical methods from the viewpoint of anti-cancer compound discovery.

**Keyword:** Anti-cancer; Natural products; *Theobroma cacao*