

A review of the biomedical applications of zerumbone and the techniques for its extraction from ginger rhizomes

ABSTRACT

Zerumbone (ZER) is a phytochemical isolated from the subtropical Zingiberaceae family and as a natural compound it has different biomedical properties such as antioxidant, anti-inflammatory anti-proliferative activity. ZER also has effects on angiogenesis and acts as an antitumor drug in the treatment of cancer, showing selective toxicity toward various cancer cell lines. Several techniques also have been established for extraction of ZER from the rhizomes of ginger. This review paper is an overview of recent research about different extraction methods and their efficiencies, in vivo and vitro investigations of ZER and also its prominent chemopreventive properties and treatment mechanisms. Most of the studies mentioned in this review paper may be useful use as a knowledge summary to explain ZER extraction and anticancer activities, which will show a way for the development of strategies in the treatment of malignancies using ZER.

Keyword: Anticancer properties; Antimicrobial; Antioxidant; Extraction methods; Zerumbone