

## **Plants of the genus *Zingiber* as a source of bioactive phytochemicals: from tradition to pharmacy**

### **ABSTRACT**

Plants of the genus *Zingiber* (Family Zingiberaceae) are widely used throughout the world as food and medicinal plants. They represent very popular herbal remedies in various traditional healing systems; in particular, rhizome of *Zingiber* spp. plants has a long history of ethnobotanical uses because of a plethora of curative properties. Antimicrobial activity of rhizome essential oil has been extensively confirmed in vitro and attributed to its chemical components, mainly consisting of monoterpene and sesquiterpene hydrocarbons such as  $\alpha$ -zingiberene, ar-curcumene,  $\beta$ -bisabolene and  $\beta$ -sesquiphellandrene. In addition, gingerols have been identified as the major active components in the fresh rhizome, whereas shogaols, dehydrated gingerol derivatives, are the predominant pungent constituents in dried rhizome. *Zingiber* spp. may thus represent a promising and innovative source of natural alternatives to chemical food preservatives. This approach would meet the increasing concern of consumers aware of the potential health risks associated with the conventional antimicrobial agents in food. This narrative review aims at providing a literature overview on *Zingiber* spp. plants, their cultivation, traditional uses, phytochemical constituents and biological activities.

**Keyword:** *Zingiber*; Essential oil; Food preservatives; Ginger; Herbal remedies; Rhizome; Traditional healing systems