

RESEARCH ARTICLE

# PHYTOPREVENTIVE ANTIHYPERLIPIDEMIC ACTIVITY OF *CURCUMA ZEDOARIA*

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***Curcuma zedoaria* belongs to the family Zingiberaceae. Hydroethanolic extract of *Curcuma zedoaria* rhizome showed only the presence of alkaloids. Total phenol content was found to be  $34.45 \pm 1.9$  expressed as mg/g equivalent of gallic acid. Total flavonol content was found to be  $45.56 \pm 2.38$  mg/g equivalent of quercetin. *In vitro* antioxidant activity IC<sub>50</sub> value for hydroethanolic extract was found to be  $930 \pm 16.35$  for DPPH method,  $>1000 \mu\text{g/ml}$  for Nitric oxide method. Concentration required for reducing power was found to be  $2.525 \pm 0.023 \mu\text{g/ml}$ . total antioxidant capacity was found to be  $230.2 \pm 1.32$  which was expressed as mM equivalent of Ascorbic acid. The extract was found to be effective in reducing TC levels after 12 days of pre treatment with extract at a dose of 200 and 400 mg/kg *b/w* reduced by 17.1% and 19.65%. No significant changes were seen on LDL, VLDL and HDL cholesterol levels.**

**Key words:** *Curcuma zedoaria*, Antihyperlipidemic, Antioxidant, Zingiberaceae, Lipid profile.

## INTRODUCTION

Natural products are associated with a wide range of bioactivities and have played a vital role in treatment of diseases (Dahiya and Gautam, 2011; Jain *et al* 2011; Zahid Hosen *et al* 2011). *Curcuma zedoaria* is a perennial herb which is cultivated throughout India and traditionally, used as carminative, stomachic, gastrointestinal stimulant, diuretic, expectorant, demulcent, rubefacient as well as used in flatulence (Riaz *et al* 2011; Kim *et al* 2000). Zedoary's effect on digestive system is similar to ginger but milder. The Ayurvedic pharmacopoeia indicated use of rhizome in goiter. These rhizomes found to contain a number of terpenoids, including curcumene, curcumenone, curdione, curcumenol, curzerenone epoxide, a volatile oil (1.0-1.5%) resembling ginger oil and starch (50%). Traditionally, this rhizome is used for the

treatment of goiter and as antitumor, anti allergic and antimicrobial (Figure 1). In present work, antihyperlipidemic activity of the herb *Curcuma zedoaria* is reported.



Fig. 1. *Curcuma zedoaria* rhizome