

Antioxidant and Anticancer Activities from Aerial Parts of *Acalypha indica* Linn.

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ABSTRACT

Extracts of Acalypha indica Linn. (aerial parts) were investigated for antioxidant activity, anticancer activity, and cytotoxicity. The extracts showed a non-cytotoxic response against Vero cells (African green monkey kidney). The anticancer activity of the extracts was tested using the Resazurin Microplate Assay (REMA). The methanol extract showed anticancer activity against NCI-H187-Small Cell Lung Cancer with an IC_{50} of 25.00 $\mu\text{g/mL}^{-1}$. In addition, the hexane, chloroform, and methanol extracts also showed significant antioxidant activities with an IC_{50} of 6.19, 5.70, and 7.79 mg/mL, respectively, by means of the DPPH radical scavenging assay. The hexane, chloroform, and methanol extracts also showed significant antioxidant activities with an IC_{50} of 6.13, 6.31, and 6.37 mg/mL, respectively, by means of the ABTS radical scavenging assay. Isolation and purification of the methanolic extract of the aerial part produced substantial amounts of L-quebrachitol, which was characterized by 1D and 2D NMR experiments and the MS data.

Keywords: Antioxidant activities, Anticancer activities, *Acalypha indica* L., Aerial part

INTRODUCTION

Acalypha indica Linn. is a small annual shrub, which generally occurs as a troublesome weed in gardens, roadsides and throughout the plains of India. It is found in tropical Africa and Asia and through to Polynesia (Parveen et al., 2007). The Thai name is Tam Yae Maeo. It is used in traditional medicine for the treatment of scabies (Gurib-Fakim et al., 1993), rheumatoid arthritis, and syphilitic ulcer (Dhar et al., 1968). It is also used for healing wounds (Reddy et al., 2002), as a laxative (Panthong et al., 1991), as an anti-snake venom (Siddiqui and Husain, 1990; Shirwaikar et al., 2004; Mahishi et al., 2005; Samya et al., 2008), and for its anti-implantation and anti-estrogenic activity (Hiremath