

RESEARCH ARTICLE

ANTIOXIDANT PROPERTY OF ETHANOLIC EXTRACT OF *LEUCAS ASPERA* LINN.

Talha Bin Emran^{1*}, Md. Atiar Rahman², S.M. Zahid Hosen¹, Dibyajyoti Saha¹ and Tapas Kanti Dey¹

¹Department of Pharmacy, BGC Trust University, Chittagong, Bangladesh

²Department of Biochemistry and Molecular Biology, University of Chittagong, Chittagong, Bangladesh

*E-mails: talhabmb@gmail.com, saha.dibyajyoti@gmail.com

Tel.: +88-01819942214

Received: March 18, 2012 / Revised: April 27, 2012 / Accepted: April 29, 2012

In the present study, the antioxidant property of ethanolic extract of *Leucas aspera* has been investigated. The bioactivity of the *L. aspera* extract was assessed by DPPH (1, 1-diphenyl-2-picrylhydrazyl) free radical scavenging method. Extract showed significant DPPH free radical scavenging effect when compared with standard drug - ascorbic acid. IC₅₀ value of ascorbic acid and ethanolic extract was found to be 1.25 µg/ml and 99.58 µg/ml, respectively. The IC₅₀ value of extract indicated significant antioxidant potential of the plant.

Key words: *Leucas aspera* Linn, Antioxidant activity, DPPH, Lamiaceae.

INTRODUCTION

Antioxidants are type of molecules that neutralize harmful free radicals, produced through a chain of reactions (Joseph *et al* 2009) that damage living cells, spoil foods; degrade materials such as rubber, gasoline, lubricating oil. Antioxidants terminate these chain reactions through the removal of free radical intermediates and inhibition of other oxidation reactions (Sies, 1997). This is why plants and animals maintain complex systems of multiple antioxidants, such as glutathione, vitamin C and E along with some enzymes like catalase, superoxide dismutase and various peroxidases. The use of antioxidants in pharmacology is intensively studied as oxidative stress might be an important part of many human diseases particularly stroke and neurodegenerative incidents. Antioxidants, therefore, are routinely added to meals, oils, foodstuffs, and other materials to prevent free radical damage. Recently, there has been an upsurge of interest in the therapeutic potentials of medicinal plants as antioxidants in reducing such free radical induced tissue injury. A lot of new plant species have been investigated in the search for novel

antioxidants (Chu *et al* 2000; Koleva *et al* 2002; Mantle *et al* 2000; Oke and Hamburger, 2002) other than well known and traditionally used natural antioxidants from tea, wine, fruits, vegetables and spices (Schuler *et al* 1990) but there is still a demand to find more information on the antioxidant potential of plant species.

Leucas aspera, locally known as Dondakalos, Swetadrone or Thumbai, belongs to family Lamiaceae and is a common aromatic annual herb with opposite decussate, linear lanceolate leaves and white ligulate flowers (**Figure 1**).



Fig. 1. *Leucas aspera* plant