

Short Communication

Antihyperlipidemic Activities of Common Garden Peony (*Paeonia lactiflora* Pall.)

Tserenlkham Tserendejid¹, Zhaorigety Sun², Gerelty Borjihan² Sukhdolgor Jigmed¹

¹Department of Biochemistry & Bioorganic Chemistry, School of Biology & Biotechnology, National University of Mongolia, Ulaanbaatar 210646, Mongolia, e-mail:sukhdolgor@num.edu.mn

²Institute of Macromolecular Chemistry and Mongolian Medicine, Inner Mongolia University, Huhhot 010021, China

Abstract

Key words: anti-hyperlipidemic activity, simvastatin, total cholesterol, triglyceride, lipoprotein.

Article information:

Received: 07 Jun. 2013

Accepted: 18 Apr. 2014

Published: 20 Apr. 2014

Correspondence*:

sukhdolgor@num.edu.mn

We studied different extracts of aboveground and underground parts of *Paeonia lactiflora* Pall. in experiment. For doing so this research needs to start up with total cholesterol. Total cholesterol is a direct cholesterol measurement that measures all cholesterol molecules in the blood, including low density lipoproteins (LDL), high density lipoproteins (HDL), and very low density lipoproteins (VLDL). The serum total cholesterol (TC) and low density lipoproteins (LDL) levels were significantly different in the experimentally-induced hypercholesterolemia rats. Effect on serum triglyceride (TG) level compared to control group, simvastatin and hypercholesterolemia diet (HD), but almost all were similar with simvastatin. Effect on serum high density lipoproteins (HDL) level compared between those. Extracts (PL1, PL2) were lower, almost the same with hypercholesterolemia diet (HD).

Cite this paper as:

Tserendejid, Ts., Zhaorigety, S., Gerelty, B. & Sukhdolgor, J. 2014. Antihyperlipidemic activities of Common garden peony (*Paeonia lactiflora* Pall.). *Mong. J. Biol. Sci.*, 11(1-2): 63-66.

Introduction

Paeonia lactiflora Pall. is a very popular plant used for traditional medicine in eastern countries. Mostly its root is used as a crude drug in traditional prescriptions in China, Japan, Korea and Mongolia as well as in some European countries (Ligaa, 2006). It is commonly used in nourishing blood, activating circulation, alleviating pain, regulating menstruation, treating liver disease and cancer. In recent years scientists from Korea and China are intensively investigated the antioxidant, cytotoxic, anti mutagenic, anti allergic, liver protective, anti arthritis and anticancer activities of roots and some pure substances of *P. lactiflora* and determined its positive effects. The 10 extracts of aboveground and underground parts of *P. lactiflora* showed a lowering effect of all level in the experimentally induced hyper lipidemic rats.

Hyperlipidemia is an abnormally high level of fatty substances, which called lipids and largely cholesterol and triglycerides contained in the blood. These fatty substances travel in the blood by attaching to proteins forming large molecules called lipoproteins. A subcategory of hyperlipidemia is hypercholesterolemia in which there is high level of total cholesterol (<http://www.americanheart.org>, 2005). Hyperlipidemia is major risk factor for the atherosclerosis. Other complications are coronary heart disease, ischemic cerebra vascular disease, hypertension, obesity and diabetes mellitus (Chattopadhyaya *et al.*, 1996). It has been well established that nutrition plays an important role in the etiology of hyperlipidemias, atherosclerosis and other coronary heart disease (CHD) complications like