



### Role of compounds from *Terminalia chebula* exhibiting Anti-Cholesterol property

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**Abstract:** Cardiovascular diseases are the leading cause of deaths on the globally. Although cardiovascular disease usually affects older adults, the antecedents of cardiovascular disease, notable atherosclerosis, begin in early life, making primary prevention efforts necessary from childhood. This is extremely important considering that 1 in 3 people die from complications attributable to atherosclerosis. Cholesteryl esterase is the key enzyme involved in the hydrolysis of lipids and transport of free cholesterol. The hydrolysis of dietary cholesterol ester into cholesterol by cholesteryl esterase in the intestinal lumen is an essential process for its absorption. The reduction of cholesterol absorption by inhibiting cholesteryl esterase is a new target site of intervention for the treatment of hyperlipidaemia. Elevated levels of lipids such as cholesterol and triglycerides in the blood cause hyperlipidaemia, which is an established risk factor of atherosclerosis and coronary heart disease. Although several drugs are generally well tolerated and effective, they have been found to cause many adverse side effects. It necessitates the need to evolve alternative therapies, such as herbal therapy. The results from the molecular docking of cholesteryl esterase with gallic acid and ellagic acid from *Terminalia chebula* seeds have provided insight to the use of plants as drugs for the treatment of hypercholesterolemia. As revealed in this study, the compound ellagic acid has the highest potential to regulate the cholesterol level in the blood.

**Keywords:** Ellagic acid; gallic acid; cholesteryl esterase.

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