

Abstract Purpose of review: Clinical studies suggested that 3-hydroxyl-3-methylglutaryl coenzyme A reductase inhibitor (statin) therapy has an additional cardiovascular protective activity that may function independently of the ability of statins to lower serum cholesterol. Notwithstanding, the clinical relevance of these serum lipid-independent effects is not fully understood. The mechanisms underlying these serum lipid-independent statin effects are not completely understood, but there is increasing evidence that statins improve endothelial function through molecular mechanisms that mediate an increase in endothelium-derived nitric oxide. Recent findings: Experimental studies have clearly shown that statins protect against ischaemia-reperfusion injury of the heart, and exert pro-angiogenic effects by stimulating the growth of new blood vessels in ischaemic limbs of normocholesterolemic animals.