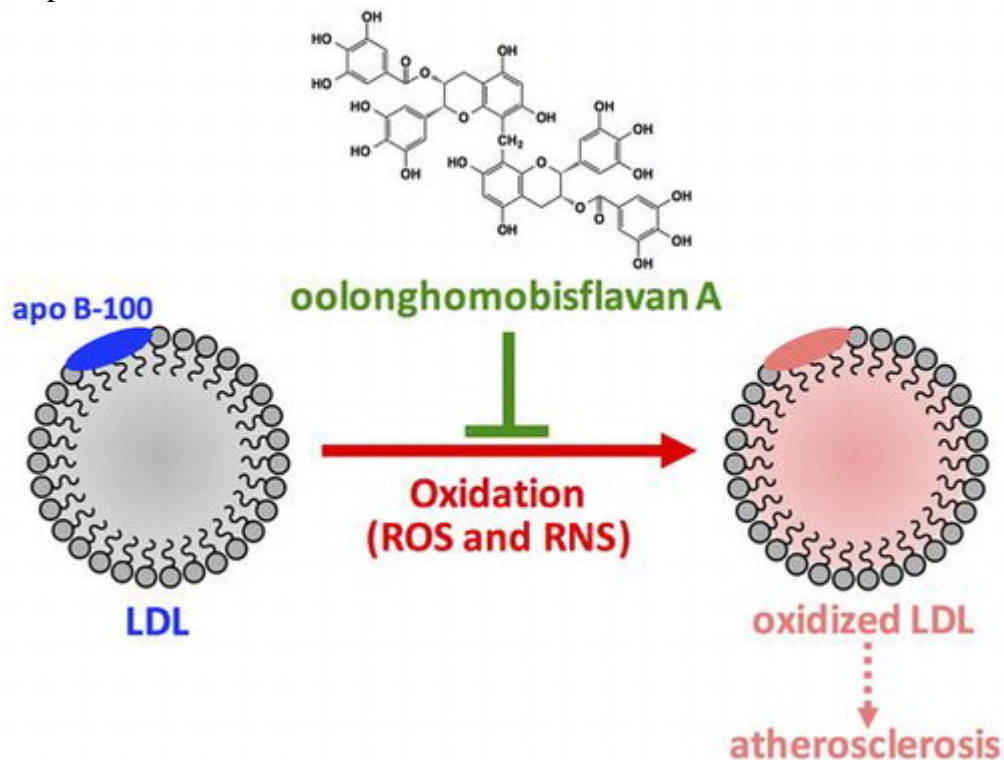


Graphical abstract



Oxidation of low-density lipoprotein (LDL) by reactive oxygen species (ROS) and reactive nitrogen species (RNS) has been suggested to be involved in the onset of atherosclerosis. Oolong tea contains unique polyphenols including oolonghomobisflavan A (OFA). In this study, the effects of OFA on LDL oxidation by ROS and RNS were investigated *in vitro*. OFA suppressed formation of cholesterol ester hydroperoxides in LDL oxidized by peroxy radical and peroxynitrite, and formation of thiobarbituric acid reactive substances in LDL oxidized by Cu^{2+} . In addition, OFA inhibited fragmentation, carbonylation, and nitration of apolipoprotein B-100 (apo B-100) in the oxidized LDL, in which heparin-binding activity of apo B-100 was protected by OFA. Our results suggest that OFA exhibits antioxidant activity against both lipid peroxidation and oxidative modification of apo B-100 in LDL oxidized by ROS and RNS. Polyphenols in oolong tea may prevent atherosclerosis by reducing oxidative stress.