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Theaflavins in black tea and catechins in green tea are equally effective antioxidants.

Published: 2001 Author: Leung

Green tea catechins, including (-)-epicatechin (EC), (-)-epicatechin gallate (ECG), (-)-epigallocatechin (EGC) and (-)-epigallocatechin gallate (EGCG), are oxidized and dimerized during the manufacture of black tea and oolong tea to form orange-red pigments, theaflavins (TF), a mixture of theaflavin (TF1), theaflavin-3-gallate (TF2A), theaflavin-3'-gallate (TF2B) and theaflavin-3,3'-digallate (TF3). The present study was designed to compare the antioxidant activities of individual TF with that of each catechin using human LDL oxidation as a model. All catechins and TF tested inhibited Cu(+2)-mediated LDL oxidation. Analysis of the thiobarbituric acid-reactive substances (TBARS) and conjugated dienes produced during LDL oxidation revealed that the antioxidant activity was in the order: TF3 > ECG > EGCG > or = TF2B > or = TF2A > TF1 > or = EC > EGC. Four TF derivatives also demonstrated a dose-dependent antioxidant activity in Cu(+2)-mediated LDL oxidation at concentrations of 5-40 micromol/L. These results demonstrate that the TF present in black tea possess at least the same antioxidant Theaflavins in black tea and catechins in green tea are equally effe... http://www.sunphenon.com/antioxidant-activity-studies/theaflavins-...

potency as catechins present in green tea, and that the conversion of catechins to TF during fermentation in making black tea does not alter significantly their free radical-scavenging activity.

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