

Inhibitory effects of polyphenolic catechins from chinese green tea on HIV-reverse transcriptase activity

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Abstract

Three polyphenolic catechins, epigallocatechin (1), epicatechin-3-O-gallate (2) and epigallocatechin-3-O-gallate (3), were isolated from Chinese green tea, Ti-Kaun-Yin(*Camellia sinensis*) and demonstrated as a new class of human immunodeficiency virus-reverse transcriptase (HIV-RT) inhibitor. The concentrations required for 50% inhibition for the compounds (1), (2) and (3) were 7.80, 0.32 and 0.68 μM , respectively. The polyphenolic catechins with a galloyl group at the 3 position were potent inhibitors of HIV-RT. Kinetic analysis indicated that the polyphenolic catechins were competitive inhibitors with respect to the template-primer (rA)n(dT)_{12–18} and noncompetitive inhibitors to dTTP.