Data S1.

Data S1. Green tea extract preparation and characterization. High-performance liquid chromatography (HPLC) analysis was performed using Agilent 1100 series HPLC System, equipped with G1329A ALS Auto-sampler and G1315A Diode Array Detector (Agilent Technologies, Inc.). Sample solution was injected onto a Supelco Discovery RP Amide C16 guard column (15 cm x 4.6 mm, 5 μm; Sigma-Aldrich; Merck KGaA). A gradient elution was carried out using the following solvent systems: Mobile phase A, 0.05 -phosphoric acid; mobile phase B, acetonitrile. The elution was performed with a gradient procedure: 0-1 min, 2% B; 2-30 min, from 2% B to 50% B. The sample injection volume was 10 μl. Elution was performed at a solvent flow rate of 0.8 ml/min. A standard mixture which contains caffeine (CAF), epigallocatechin (EGC), catechin (C), epigallocatechin gallate (EGCG) and epicatechin gallate (ECG) in methanol was prepared and analyzed. Purine alkaloid and catechin compounds were identified by comparing the retention time and spectral data with those of authentic standards. All analyses were repeated three times. The HPLC chemical profile of GTE was shown in Fig. S1. The main alkaloid in GTE was caffeine (CAF; 3.12±0.05%) while the major catechin was EGCG (9.52±0.05%). Particularly, the relative compositions of catechins in green tea increased in the order: C<EGC<ECG<EGCG. The yield of GTE was 32.05% (g/10 g).

Figure S1. Alkaloids and catechins contents in GTE. Detection was performed using Agilent 1100 series HPLC System with a Supelco Discovery RP Amide C16 guard column at UV 210 nm. High Performance Liquid Chromatography of GTE is depicted. CAF, caffeine; EGC, epigallocatechin; C, catechin; EGCC, epigallocatechin gallate; ECG, epicatechin gallate.

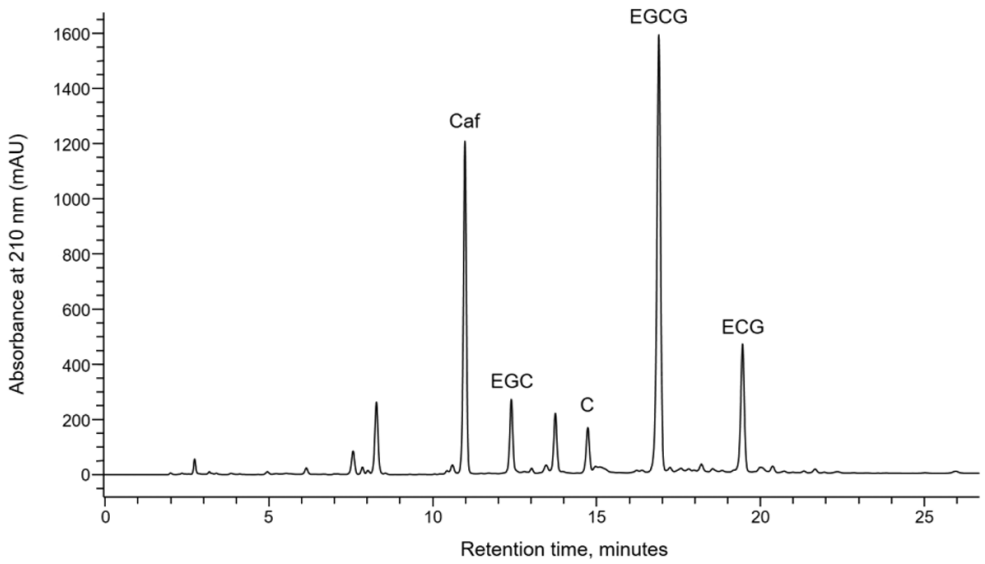

Figure S2. Change of rat mean body weight from week 0 (baseline) to week 4. Rat body weight with different treatment was illustrated: (A) GTE only in L, M or H doses; and (B) with anti-resorptives A or R. The error bar represents the SEM for each treatment group (n=8 per group). GTE, green tea extract; OVX, ovariectomized; A, alendronate; R, raloxifene; L, low dose; M, medium dose; H, high dose.