

Figure S1. Dose-response curve of AEC in (A) CT26, (B) HCT116 and (C) Detroit 551 cells. (D) Dose-response curve of PT in CT26 cells. \*P<0.05 vs. no group. #P<0.05 vs. Vehicle group. AEC, aqueous extract of *Ecklonia cava*; PT, phlorotannin. Scale bar=50  $\mu$ m.

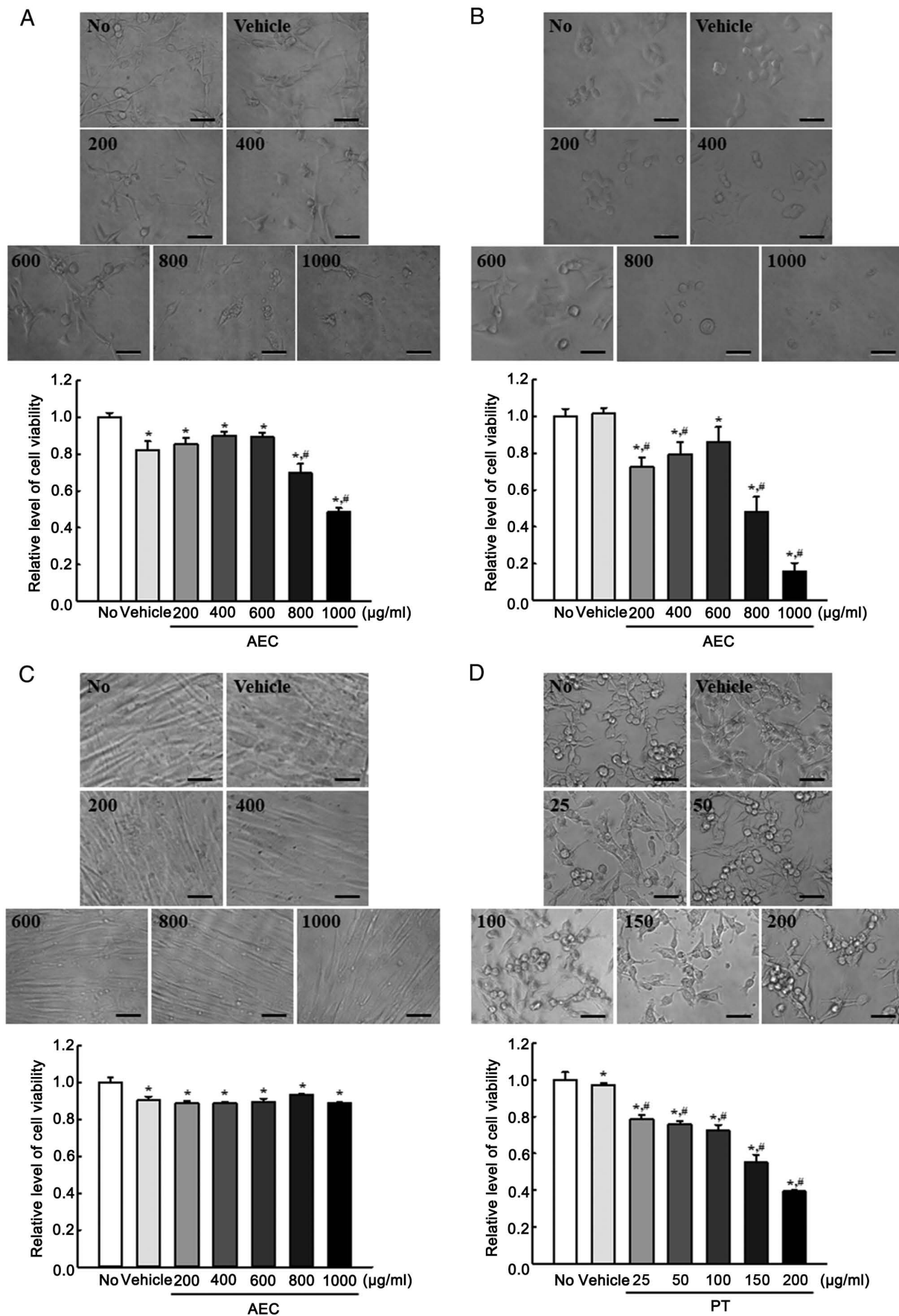


Figure S2. Experimental schedule in BALB/cKorl syngeneic mice with CT26 tumor. SC, subcutaneous IP, intraperitoneal; AEC, aqueous extract of *Ecklonia cava*; Cis, cisplatin; Lo, low concentration; Mi, middle concentration; Hi, high concentration.

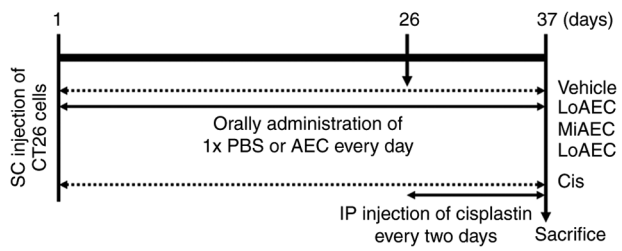


Figure S3. Chemical structures of eleven bioactive components including (A) triacontanoic acid, (B) fucosterol, (C) 9,12-octadecadienoic acid, (D) aspartic acid, (E) phloroglucinol, (F) eckol, (G) phlorofucofuroeckol, (H) 6,6'-bieckol, (I) fucodiphloroethol G, (J) docosanoic acid and (K) dieckol [Venkatesan J, Kim SK and Shim MS: Antimicrobial, antioxidant, and anticancer activities of biosynthesized silver nanoparticles using marine algae *Ecklonia cava*. *Nanomaterials* (Basel) 6: 235, 2016].

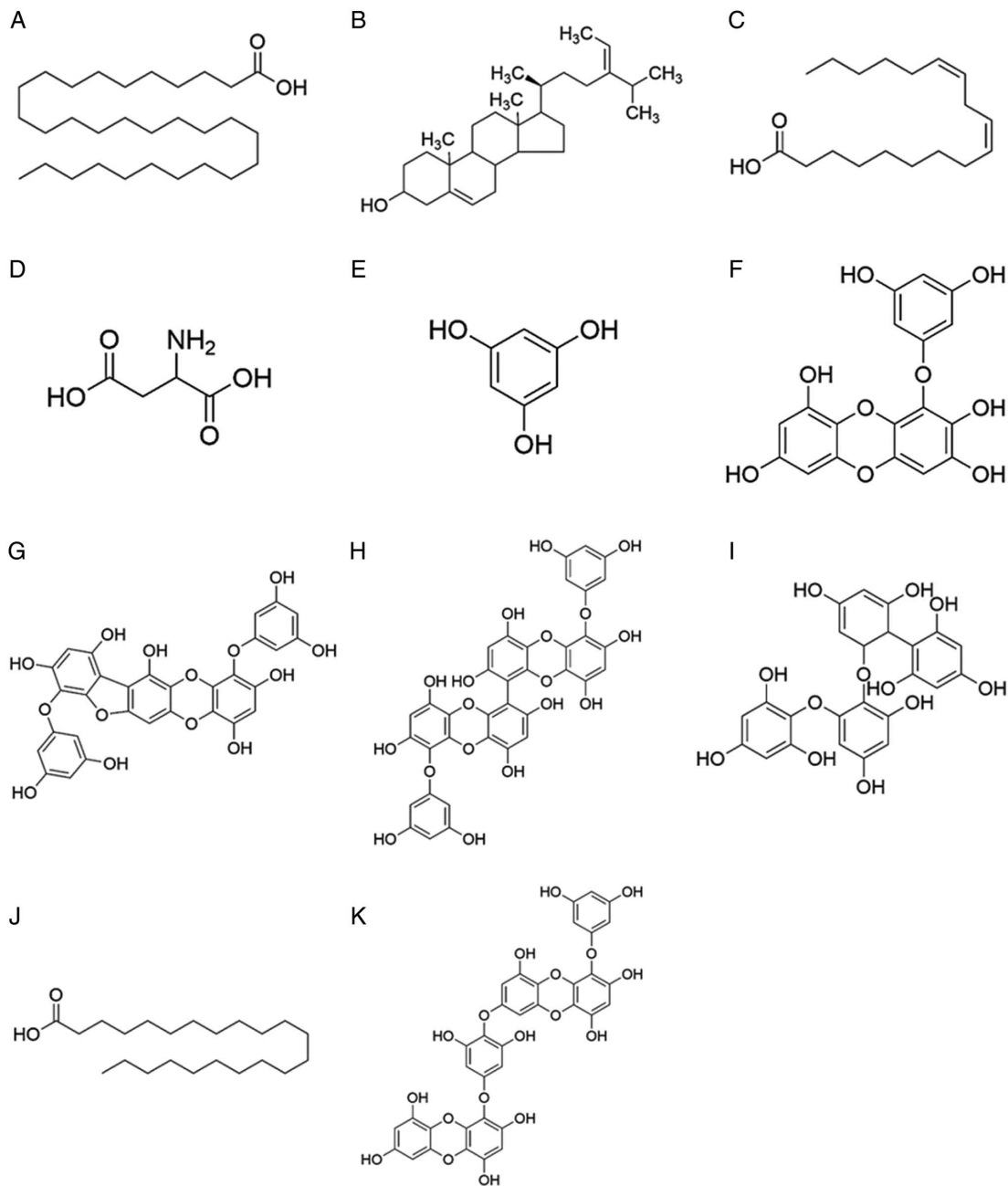


Figure S4. Body and organ weight in BALB/cKorl syngeneic mice with CT26 tumors after treatment with AEC. \*P<0.05 vs. no group. AEC, aqueous extract of *Ecklonia cava*; Cis, cisplatin; Lo, low concentration; Mi, middle concentration; Hi, high concentration.

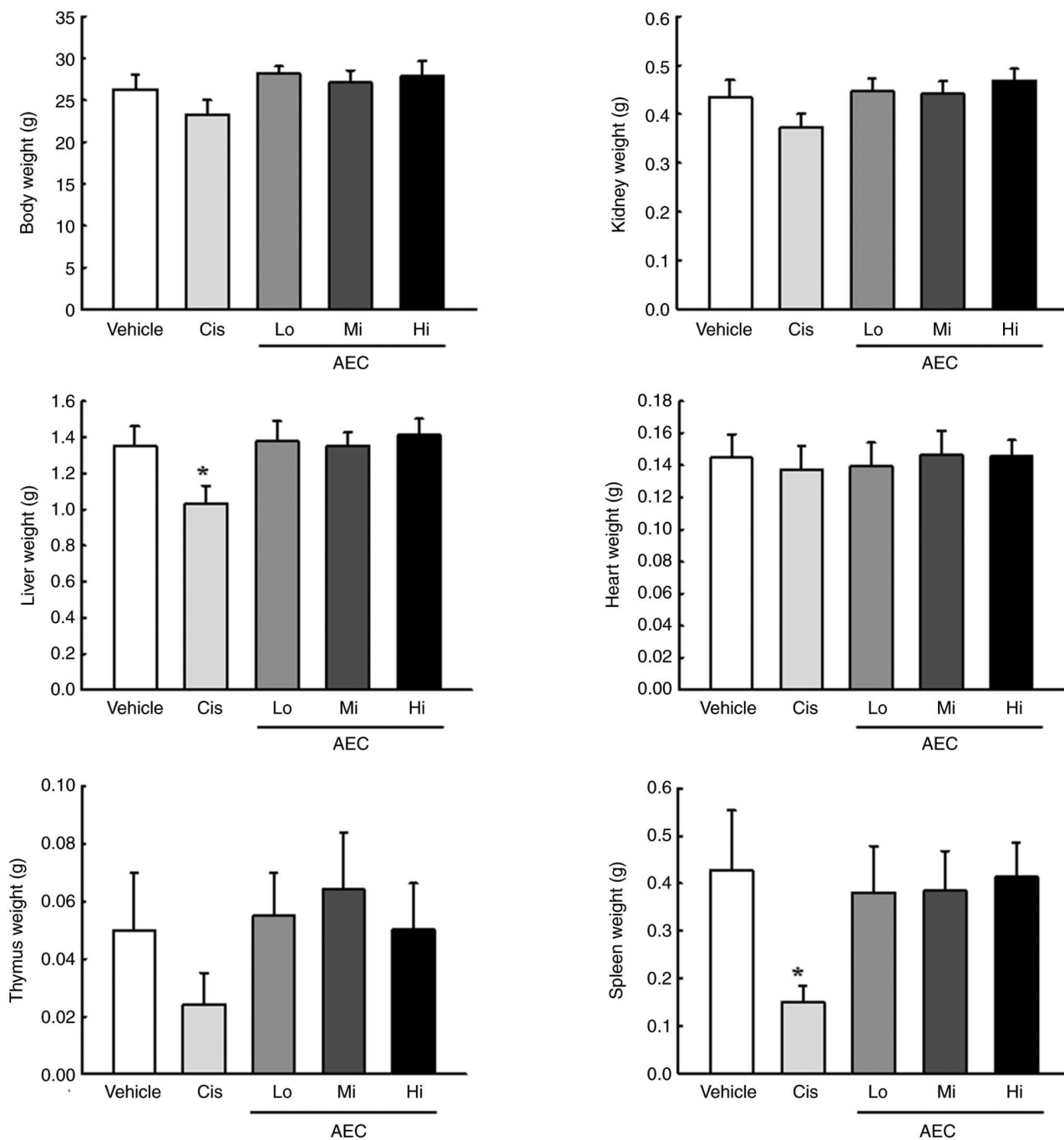


Figure S5. Serum parameters in BALB/cKor1 syngeneic mice with CT26 tumors after treatment with AEC. \*P<0.05 vs. no group. AEC, aqueous extract of *Ecklonia cava*; Cis, cisplatin; Lo, low concentration; Mi, middle concentration; Hi, high concentration; Ca, calcium; LDH, low density lipoprotein; AST, aspartate aminotransferase; ALT, alanine aminotransferase; ALP, alkaline phosphatase.

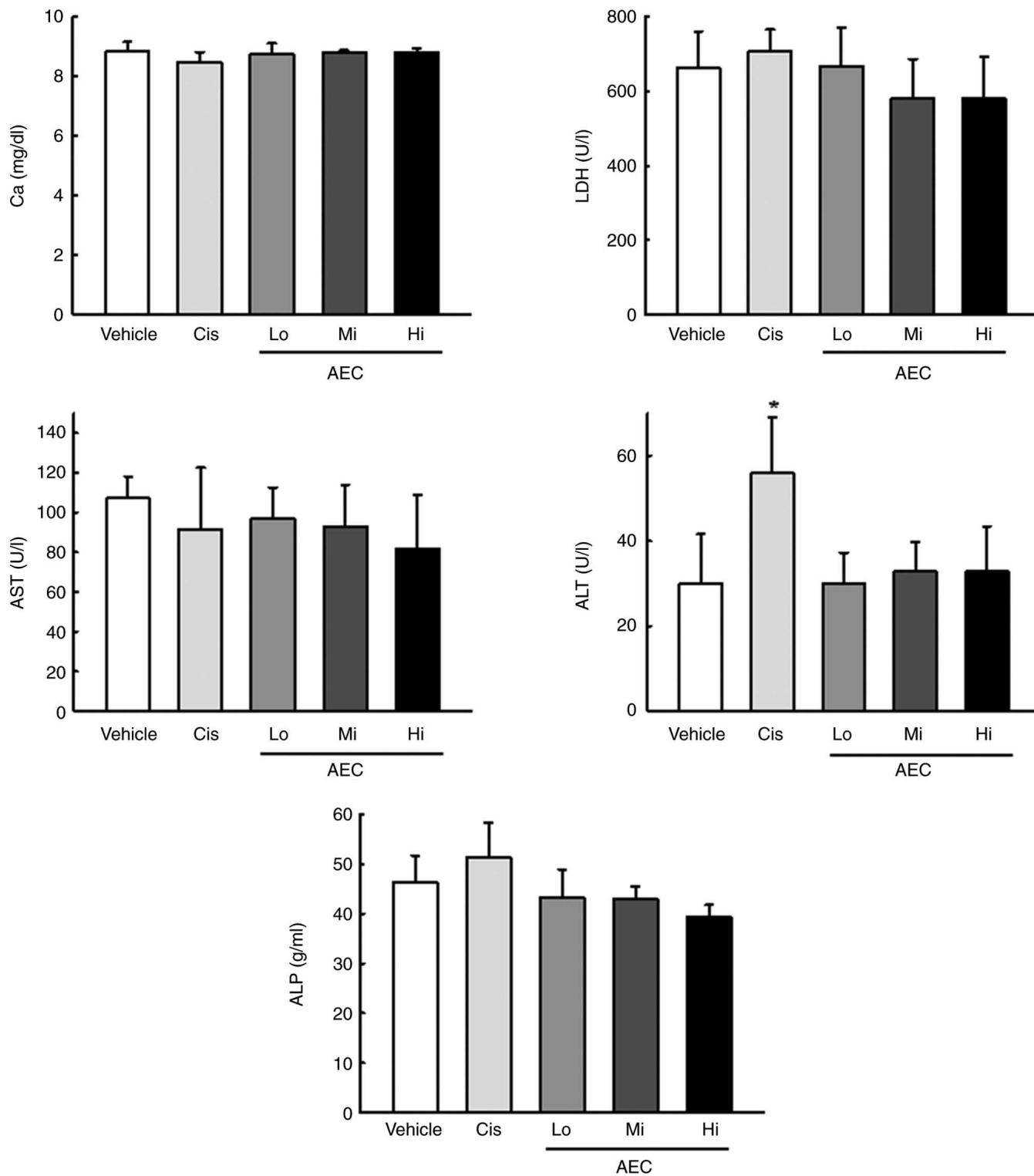


Figure S6. Blood parameters in BALB/cKorl syngeneic mice with CT26 tumors after treatment of AEC. \*P<0.05 vs. no group AEC, aqueous extract of *Ecklonia cava*; Cis, cisplatin; Lo, low concentration; Mi, middle concentration; Hi, high concentration; WBC, white blood cells; RBC, red blood cells; HGB, hemoglobin; HCT, hematocrit; MCV, mean corpuscular volume; MCH, mean corpuscular hemoglobin; MCHC, mean corpuscular hemoglobin concentration; CHCM, corpuscular hemoglobin concentration mean; CH, corpuscular hemoglobin content; HDW, hemoglobin concentration distribution width; PLT, platelets; MPV, mean platelet volume.

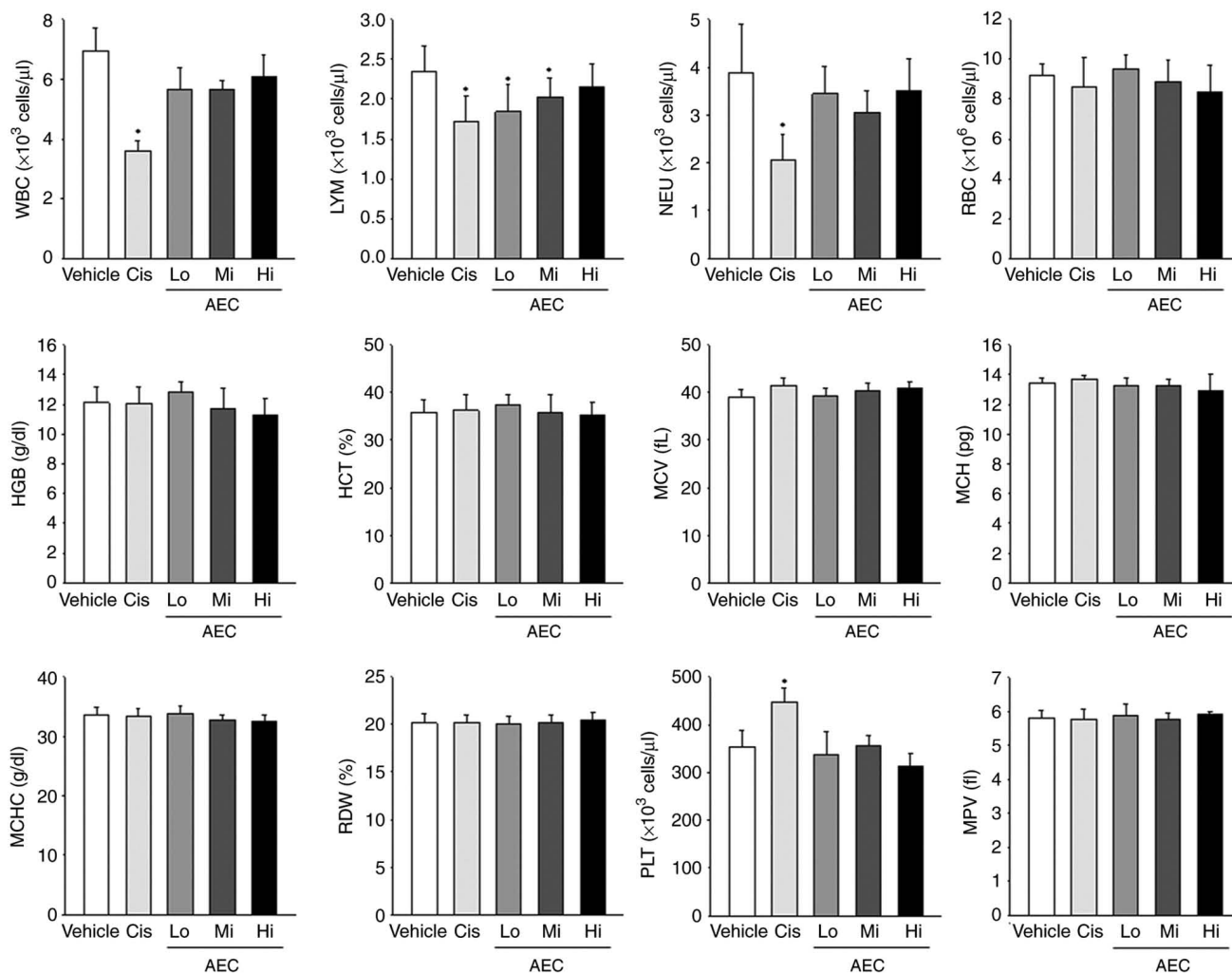


Figure S7. Histopathological analysis of liver and kidney tissue. Scale bar=50  $\mu$ m. AEC, aqueous extract of *Ecklonia cava*; Cis, cisplatin; Lo, low concentration; Mi, middle concentration; Hi, high concentration.

