Electronic Supplementary Material (ESI) for MedChemComm.

Supplementary Information

Antitumor effect of sikokianin C, a selective cystathionine *β*-synthase inhibitor, against human colon cancer *in vitro* and *in vivo*

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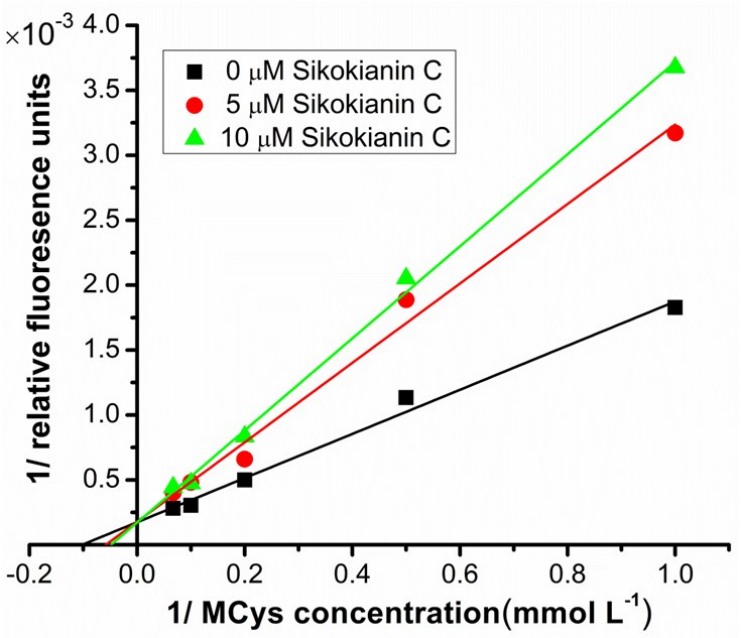

Figure S1 The compound sikokianin C inhibits the activity of CBS in a competitive fashion. Inhibition of CBS by sikokianin C as a function of S-methylcysteine (MCys) concentration. The sikokianin C concentrations were 0 μM, 5 μM and 10 μM. Each point on the Lineweaver-Burk plots represents the average of duplicates.

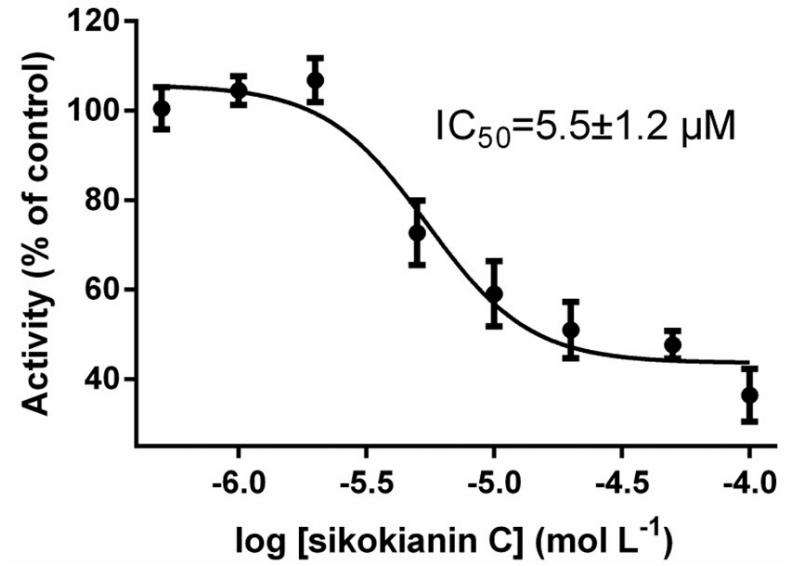

Figure S2 Dose-dependent inhibition of purified CBS activity by sikokianin C. The IC_{50} value of sikokianin C against CBS was measured in the presence of 20 mM homocysteine, 20 mM cysteine, 5 μg of CBS protein, 0.4 mM lead nitrate, and varying concentrations of sikokianin C in a 200 μL mixture (5% DMSO, 50 mM HEPES (pH 7.4)). The graph represents the relative activity of CBS in the presence of different concentrations of sikokianin C compared with that of untreated CBS (control), and each data point is the mean ± SD (n=3). GraphPad Prism 6 software was used to fit the data.

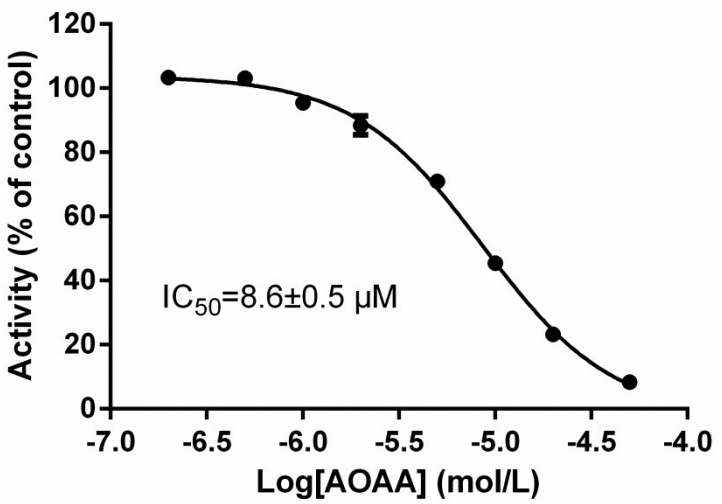

Figure S3 Dose-dependent inhibition of purified CBS activity by aminooxyacetic acid (AOAA). The IC_{50} value of AOAA against CBS was measured in the presence of 20 mM homocysteine, 20 mM cysteine, 5 μg of CBS protein, 0.4 mM lead nitrate, and varying concentrations of AOAA in a 200 μL mixture (5% DMSO, 50 mM HEPES (pH 7.4)). The graph represents the relative activity of CBS in the presence of different concentrations of AOAA compared with that of untreated CBS (control), and each data point is the mean ± SD (n=3). GraphPad Prism 6 software was used to fit the data.

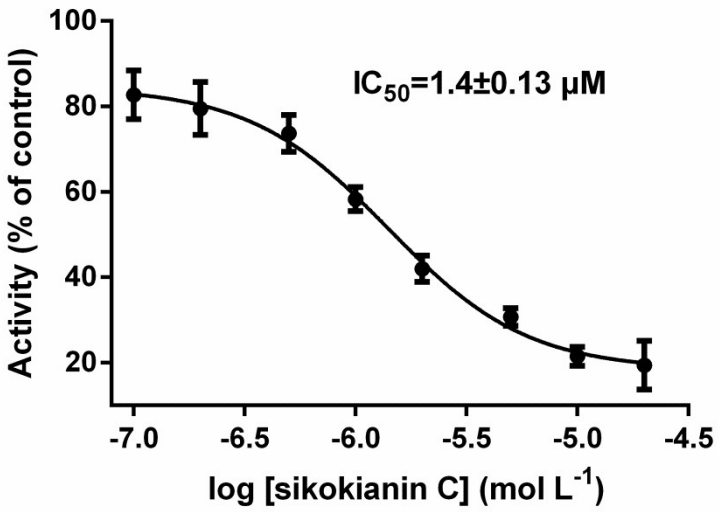

Figure S4 Dose-dependent inhibition of the activity of purified human wild-type CBS by sikokianin C in the presence of detergent (0.01% Triton X-100, vol/vol). The IC_{50} values of sikokianin C against wild-type CBS were measured in the presence of 2 mM homocysteine, 2 mM cysteine, 5 μg of CBS protein, 0.4 mM lead nitrate, 0.01% (vol/vol) Triton X-100, and varying concentrations of sikokianin C in a 200 μL mixture (5% DMSO, 50 mM HEPES (pH 7.4)). The graph represents the relative activity of CBS in the presence of different concentrations of sikokianin C compared with the activity of untreated CBS (control), and each data point is the mean ± SD (n=3). GraphPad Prism 6 software was used to fit the data.

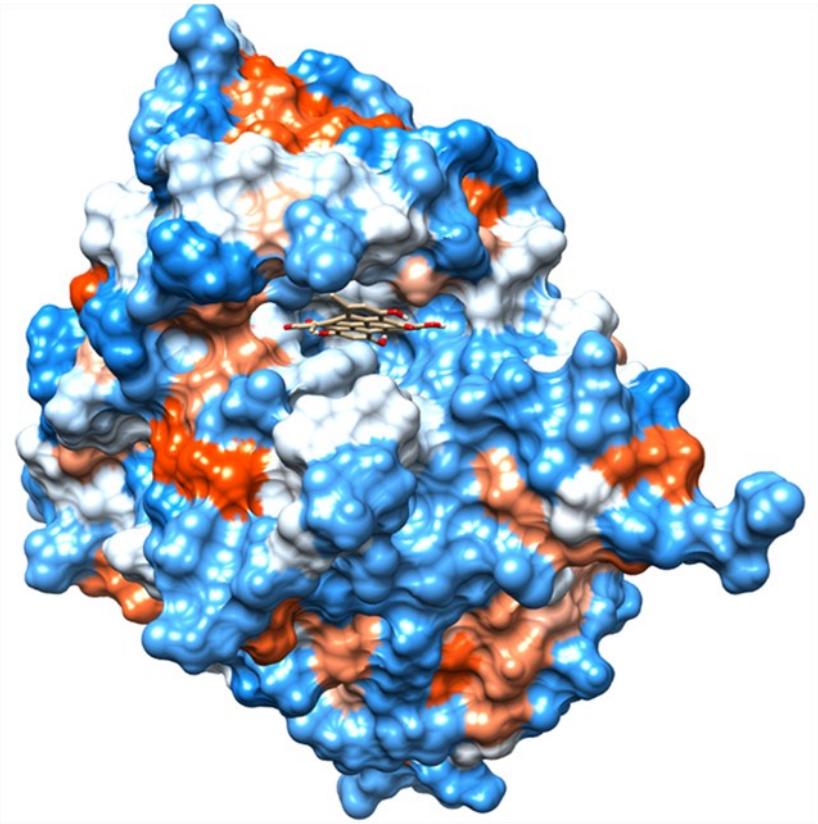

Figure S5 The spherical representation of the interaction model of the simulated CBS-sikokianin C complex. Sikokianin C is presented as a stick model.

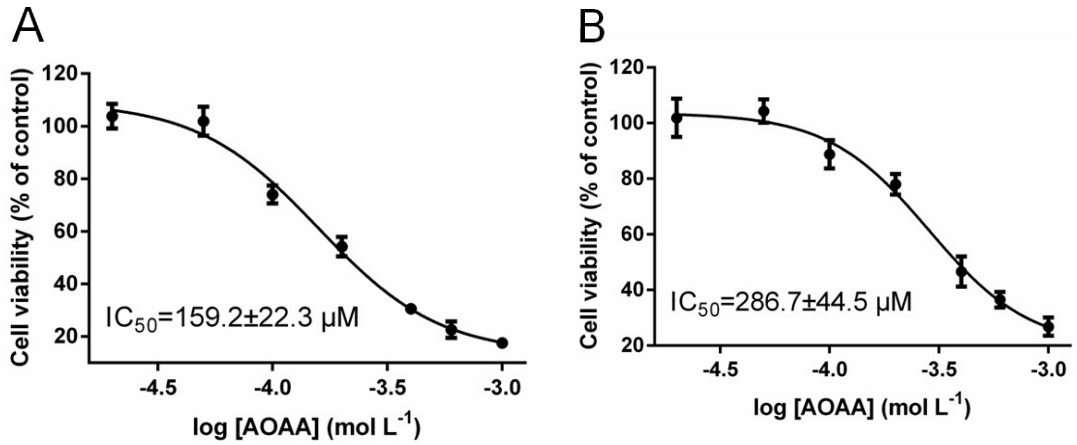

Figure S6 Effect of AOAA on the viability of HT29 cells with or without siRNA-mediated knockdown of CBS. (A) The IC_{50} value of AOAA against HT29 cells was determined using the CCK-8 assay. (B) The IC_{50} value of AOAA against HT29 cells after the siRNA-mediated knockdown of CBS was determined using the CCK-8 assay. The data represent the cell viability of the experimental group compared with that of the control group (no AOAA) and are presented as the means±SD (n=4). GraphPad Prism 6 software was used to fit the data.

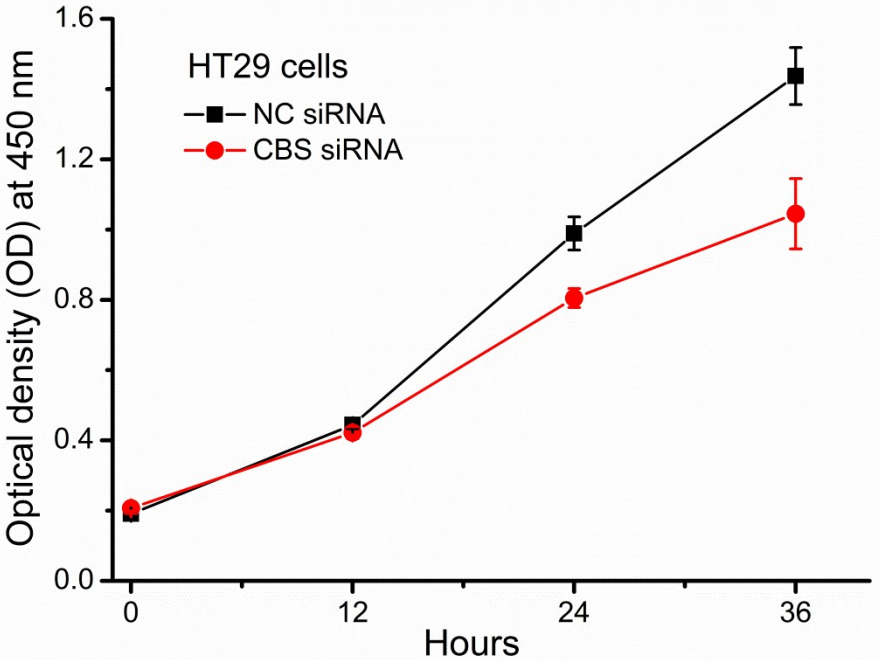

Figure S7 Effect of CBS-knockdown on growth and proliferation of HT29 cells. The growth curves of HT29 cells (NC siRNA transfection) and HT29 CBS-knockdown cells(CBS siRNA transfection) were determined by CCK8 assay. Data were represented as means ± SD (n=4).

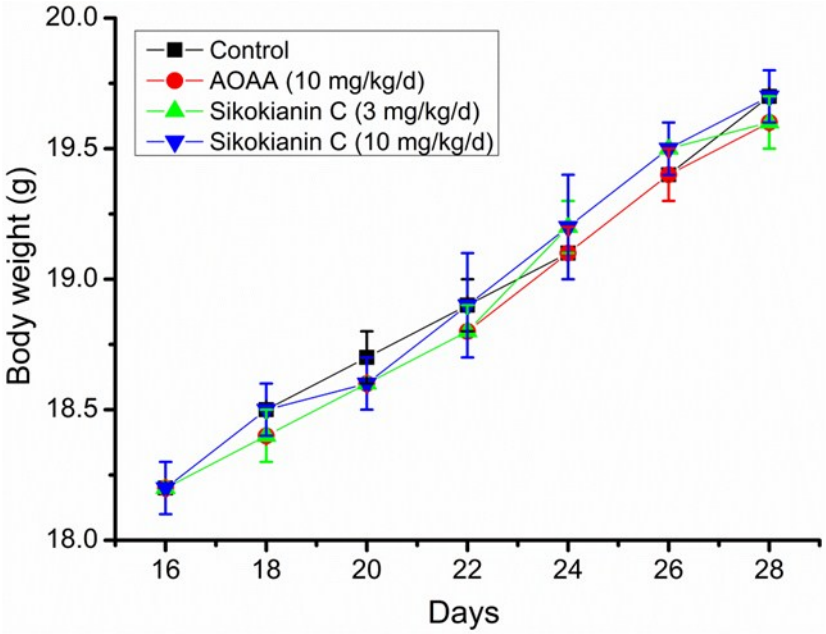

Figure S8 Effect of sikokianin C on the body weight of nude mice. The results are expressed as the means±SD (n=6).