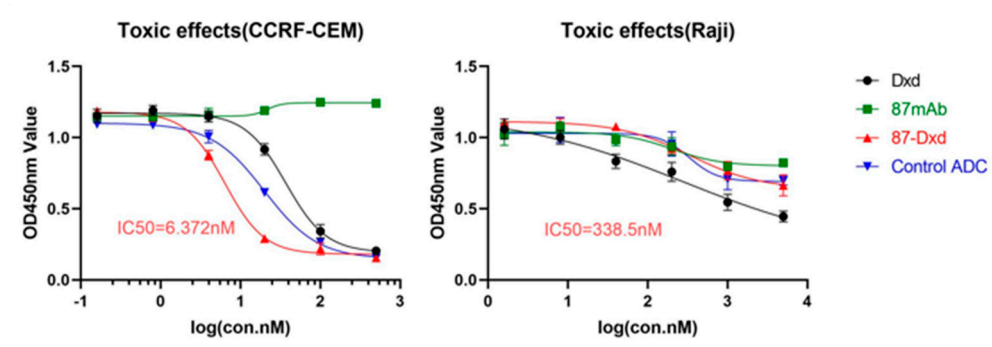
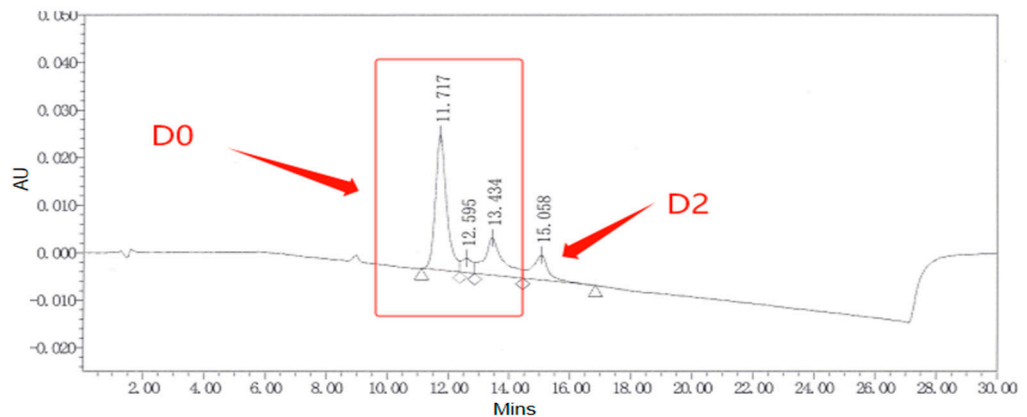


**Figure S1. CCK-8 assay to analyze cell cytotoxicity.** IC<sub>50</sub> values were determined using curve fitting by nonlinear regression as the concentration of the drug that causes 50 % loss of cell viability compared to untreated cells. An anti-SLC3A2 ADC was used as control ADC.



**Figure S2. Drug-to-Antibody Ratio (DAR) Analysis of J87-Dxd.** The HIC assay was carried out using a TOSOH Butyl - NPR column (35 × 4.6 mm). Samples were injected onto the column equilibrated in 100% buffer A (1.5 M ammonium sulfate, 25 mM sodium phosphate, pH 6.95) and eluted by a linear gradient to 100% B (75% 25 mM sodium phosphate, pH 6.95, 25% isopropanol) over a 30-min period with detection at 280 nm. D0 and D2 represent DAR0 and DAR2, respectively.



**Figure S3. Overall survival of mice treated Dxd or PBS control.** A total of  $3 \times 10^6$  CCRF-CEM-luciferase cells were implanted in mice with caudal vein injection. 9 days later, CCRF-CEM mouse models were divided into two groups (n=5) and treated with Dxd (10  $\mu$ g/kg, i.p.) and PBS, respectively. Mouse survival was recorded every 3 days. ns represents no significance.

