Results In line with previous reports for CAR-T cells, dasatinib (a src inhibitor) was found to fully switch off TCB-induced T cell functionality as well as the other src inhibitors bosutinib and ponatinib. In contrast, temsirolimus, sirolimus and everolimus (mTOR inhibitors) and ruxolitinib, baricitinib, tofacitinib, and fedratinib (JAK1/2 inhibitors) were found to more potently prevent TCB-induced cytokine release without blocking TCB-mediated target cell killing.

Conclusions These results provide evidence that the mechanisms of TCB-dependent cytokine release and tumor cell killing can be uncoupled. The FDA-approved mTOR and JAK1/2 inhibitors could potentially be used to mitigate CRS whereas the Src inhibitor dasatinib could rather stand as a potential antidote for on-target tumor cell killing.

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