Online Resource 1
SDS-PAGE of purified 425(scFv)-ETA'
425(scFv)-ETA' was expressed in *E. coli* Rosetta 2 DE3 and purified by IMAC, anion exchange and size exclusion. 1 µg of the eluted protein was applied to a 12 % SDS-polyacrylamidigel. a. Coomassie staining of the gel, b. Western Blotting using an anti-polyHistidine-antibody and an alkaline phosphatase labelled goat-anti-mouse secondary antibody. M: prestained protein marker (NEB)

Online Resource 2
Visualization of A431scM3-Kat2 cells under the microscope and with flow cytometry
A431scM3 cells were lipo-transfected with pTag-Katushka2-N (Evrogen). Red fluorescent cells were selected in presence of G418. Two sorting cycles with the FACSVantage cell sorter were needed to enrich strongly fluorescent cells. Transfected and sorted A431scM3-Kat2 cells were visualized by fluorescence microscopy (a) as well as by flow cytometry. Red: un-transfected A431scM3, black: A431scM3-Kat2 directly after transfection, green: A431scM3-Kat2 after the first sorting cycle, blue: A431scM3-Kat2 after the second sorting cycle (b)
Online Resource 3
Assessment of A431scM3-Kat2 cell sensitivity towards 425(scFv)-ETA′
Specific binding of 425(scFv)-ETA′ on A431scM3-Kat2 cells was assessed via flow cytometry (a) and specific cytotoxicity of the protein was confirmed via cell viability assay (b). AH: Anti-polyHistidin-antibody, GamF: goat-anti-mouse-FITC labelled antibody