YMTHE, Volume *25*

Supplemental Information

A Fusion Receptor as a Safety Switch, Detection, and Purification Biomarker for Adoptive Transferred T Cells

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Supplemental Table

Table S1.

Amino acid sequence of FR806:

maqrmttqllllvwvavvgeaqtvracgadsyemeedgvrkckkriawartellnvcmnakhhkekpgpedklheqcrpwrknaccstnt
sqeahkdvsylyrfnwnhcgemapackrhfiqdtclyecspnlgpwiqqvdqswrkervlnvplckedceqwwedcrtsytcksnwhkg
wnwtsgfnkcavgaacqpfhfyfptptvlcneiwthsykvsnysrgsgrciqmwfdpaqgnpneevarfyaaamsgagpwaawpfllslal
mllwlls

Ribosomal skipping sequence (F2A):

vkqtlnfdllklagdvesnpgp

Amino acid sequence of anti-CD19 CAR:

malpvtalllplalllhaarpdiqltqspaslavslgqratisckasqsvdydgdsylnwyqqipgqppklliydasnlvsgipprfsgsgsgtdftln
ihpvekvdaatyhcqqstedpwtfgggtkleikggggsggggsggggsqvqlqqsgaelvrpgssvkisckasgyafssywmnwvkqrpg
qglewigqiwpgdgdtnyngkfkgkatltadessstaymqlsslasedsavyfcarretttvgryyyamdywgqgttvtvsstttpaprpptpap
tiasqplslrpeacrpaaggavhtrgldfacdiyiwaplagtcgvlllslvitlyckrgrkkllyifkqpfmrpvqttqeedgcscrfpeeeeggcelr
vkfsrsadapayqqgqnqlynelnlgrreeydvldkrrgrdpemggkpqrrknpqeglynelqkdkmaeayseigmkgerrrgkghdglyq
glstatkdtydalhmqalppr

Supplemental Figures

Figure S1:

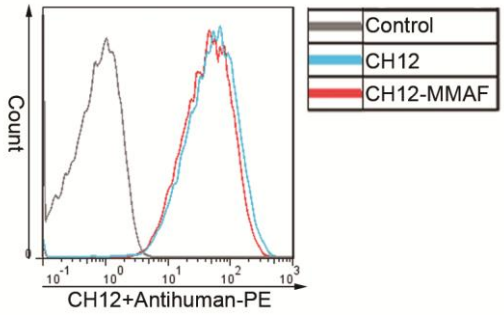

Figure S1: CH12 and CH12-MMAF stained FR806^{+} T-cells with equal intensity. T cells transduced with FR806 were stained with CH12 and CH12-MMAF at the concentration of 10μg /ml followed by goat anti-human IgG-PE. The grey line shows staining with an isotype IgG antibody followed by goat anti-human IgG-PE.

Figure S2:

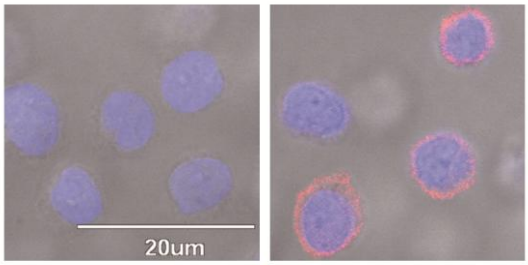

Figure S2: Confocal microscopy confirmed the internalization of CH12-MMAF into FR806^{+} T-cells. FR806^{+} T-cells were treated with CH12-MMAF for 4h at 37℃. After fixation and permeabilization, the cells were stained with a PE-conjugated secondary antibody and DAPI. Scale bar

represents 20 µM.

Figure S3:

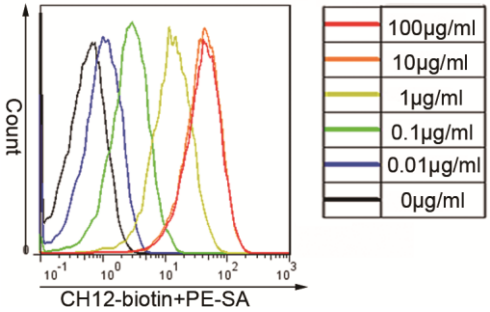

Figure S3: Titration of biotinylated CH12. FR806^{+} T cells were incubated with biotinylated CH12 at the indicated concentrations and subsequently labeled with the secondary antibody streptavidin-PE.

Figure S4:

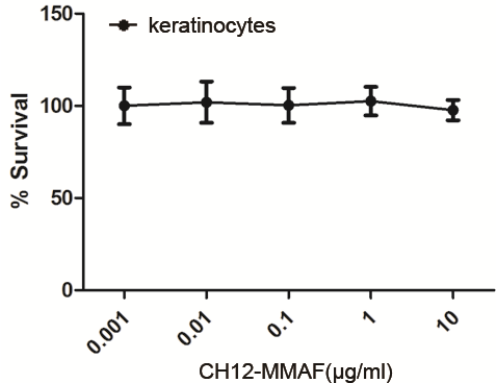

Figure S4: Cytotoxity of CH12-MMAF to keratinocytes. Keratinocytes were exposed to various concentrations of CH12-MMAF for 72h followed by a cell viability assay. Percentage survival (mean ±SD) of triplicate wells is depicted.