## Supplemental Material to:

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## Affinity-matured recombinant immunotoxin targeting gangliosides 3'-isoLM1 and 3'.6'-isoLD1 on malignant gliomas

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**Supplementary Figure 1.** 

Apparent Affinities of DmAb14-IT Parental and DmAb14m-IT on D54MG Cells





# Supplementary Figure 1. Binding affinity (apparent affinity $EC_{50}$ ) of $V_HCDR2$ and $V_LCDR1$ mutant immunotoxins on D54MG cells.

Binding affinity  $K_d$  (apparent affinity  $EC_{50}$ ) was measured by antibody dose dependent curve using flow cytometry to detect scFv immunotoxin binding against ganglioside-expressing D54MG cells. The  $K_d$  (apparent affinity  $EC_{50}$ ) values were labeled beside each curve.

### **Supplementary Figure 2.**

#### Cytotoxicity of DmAb14m-IT on negative control HEK293 cells



Supplementary Figure 2. Cytotoxicity of immunotoxins on HEK293 cells.

Inhibition of protein synthesis was determined as percentage of [ ${}^{3}$ H] leucine incorporation in HEK293 cells, after 20 hours of treatment with immunotoxins. The graph shows protein synthesis as measured by counts per minute of [ ${}^{3}$ H] leucine incorporated into protein. The dashed line indicates 50% inhibition of protein synthesis, the point at which half of the [ ${}^{3}$ H]-leucine has been incorporated in the absence of toxin. IC<sub>50</sub> of the DmAb14m-IT on HEK293 cells is not applicable (Fig.2). The value shown is the mean  $\pm$  SD calculated from the means of three separate experiments.