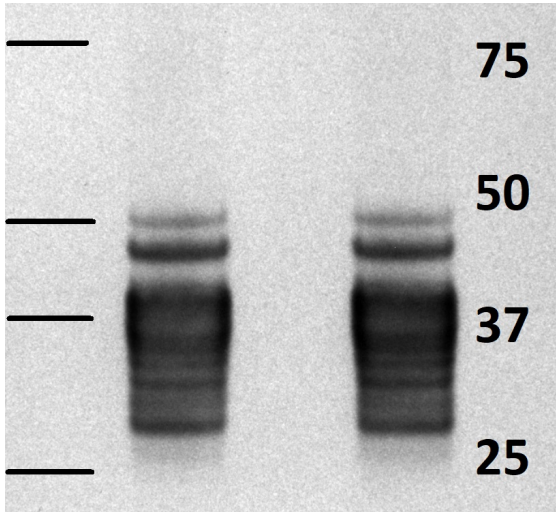
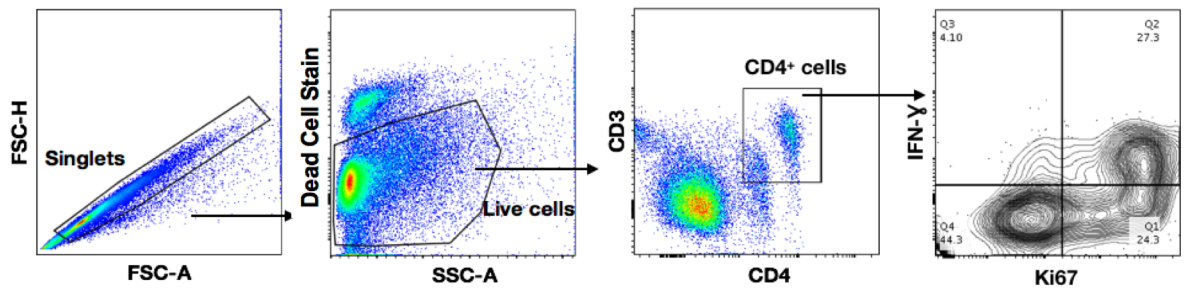


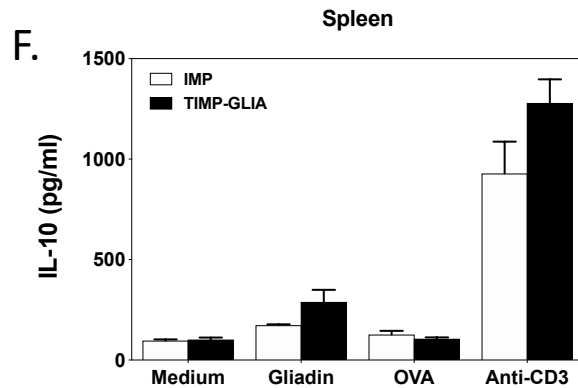
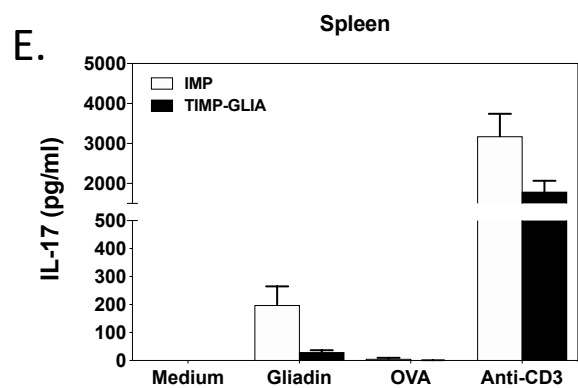
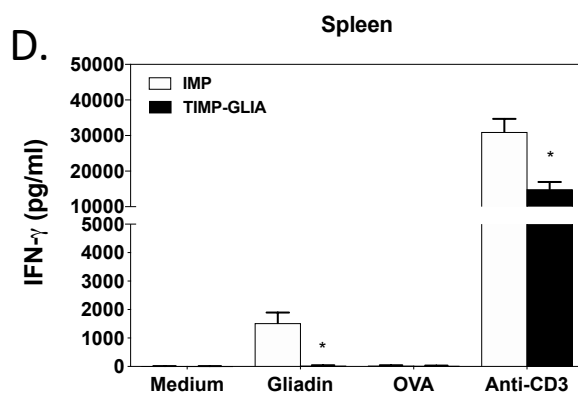
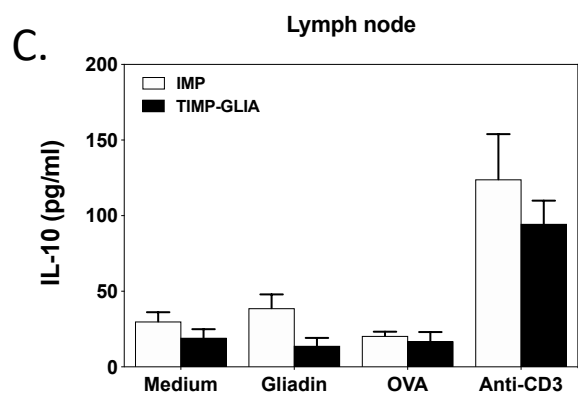
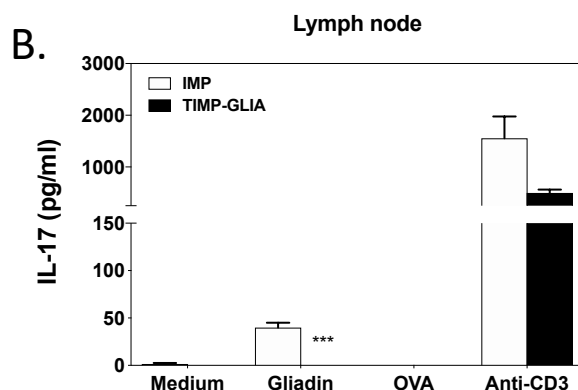
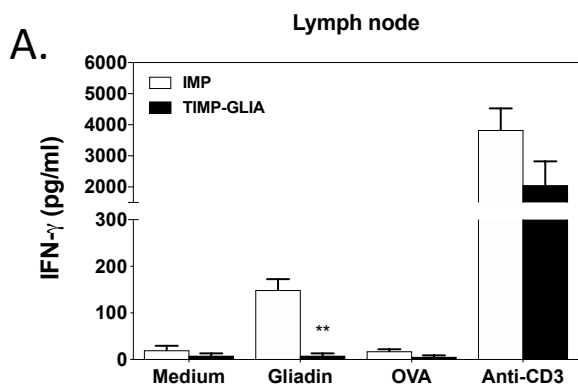
Supplementary figure 1



Supplementary figure 2

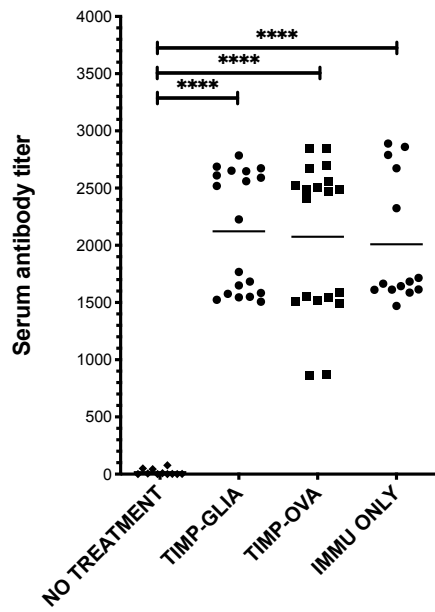


Supplementary figure 3

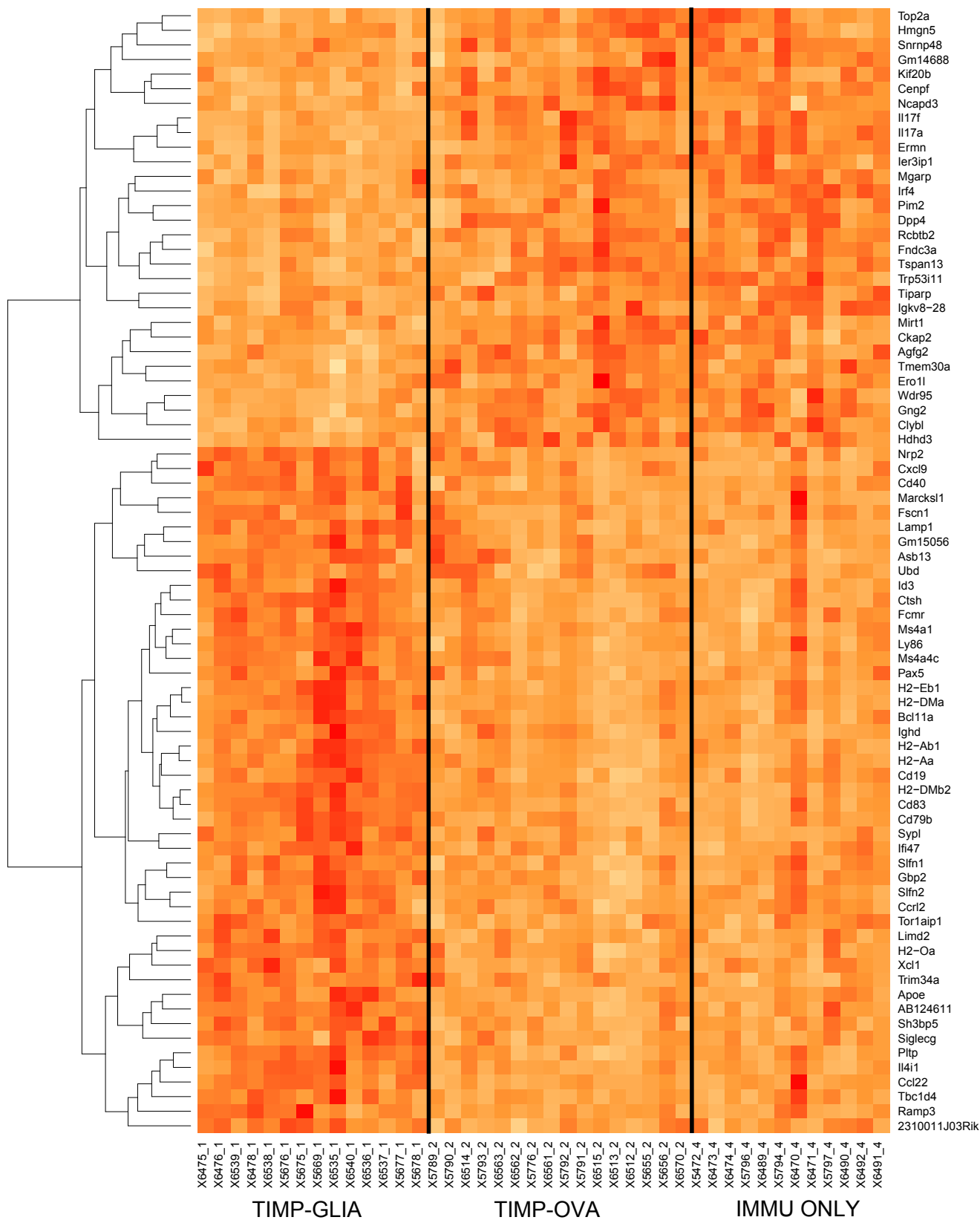
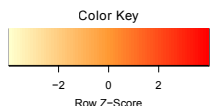


Supplementary figure 4

Anti-gliadin IgG1



Supplementary figure 5



Supplementary Figure 6

A.

(i) Mouse to human dose translation (modified from NCI National Nanotechnology Laboratory study protocols)

From the experiments displayed in figures 3-5, the optimum dose of TIMP-GLIA in mice is 125 mg/kg.

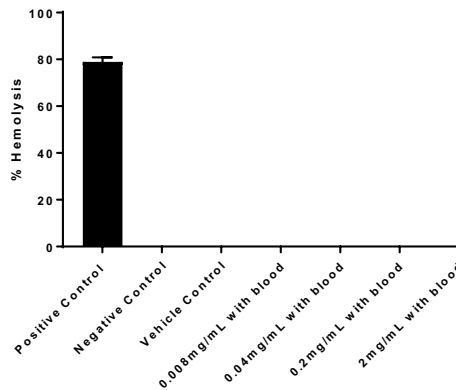
Human equivalent dose (HED), calculated from mouse optimum dose: $125 \text{ mg/kg} \div 12.3 = 10.16 \text{ mg/kg}$

(ii) Translation of HED to *in vitro* dose

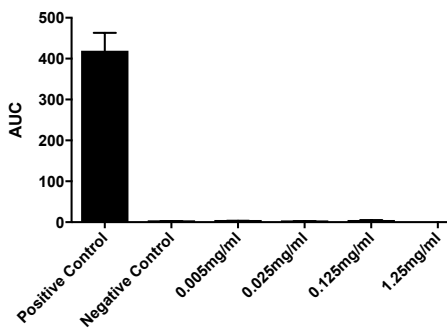
An average person of 70 kg body weight has approximately 5.6 L of blood. Assuming all nanoparticles injected go into the systemic circulation, this provides a rough approximation of the potential maximum nanoparticles concentration in a human. The theoretical plasma concentration, i.e. *in vitro* test concentration is calculated by:

$$\begin{aligned} \text{Theoretical Plasma Concentration} &= \text{Human dose} \div \text{human blood volume} \\ &= (70 \text{ kg} \times 10.16 \text{ mg/kg}) \div 5.6 \text{ L} \\ &= \mathbf{0.127 \text{ mg/mL}} \end{aligned}$$

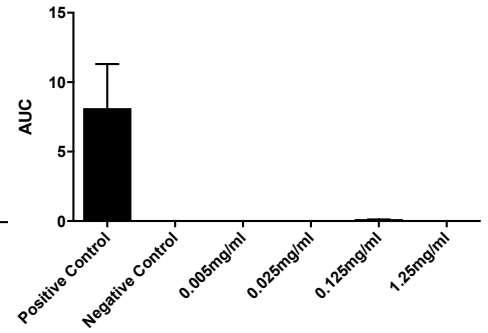
B.



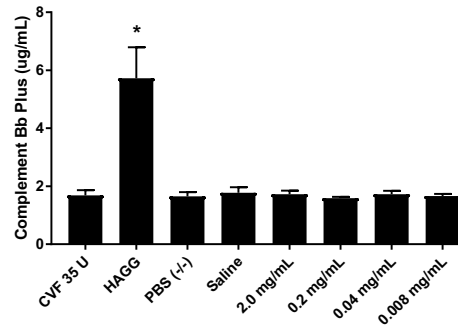
C.



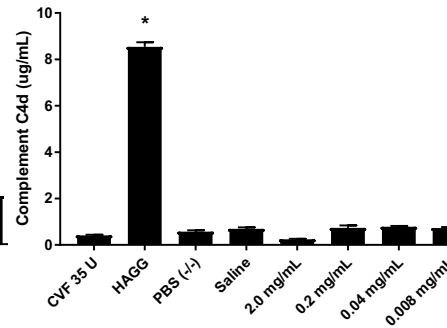
D.



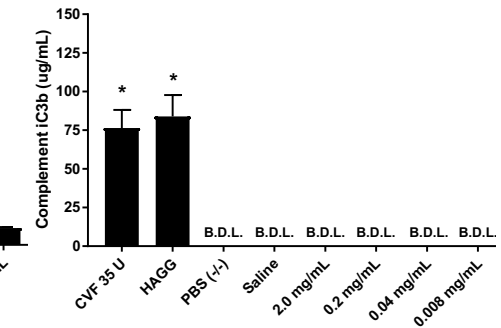
E.



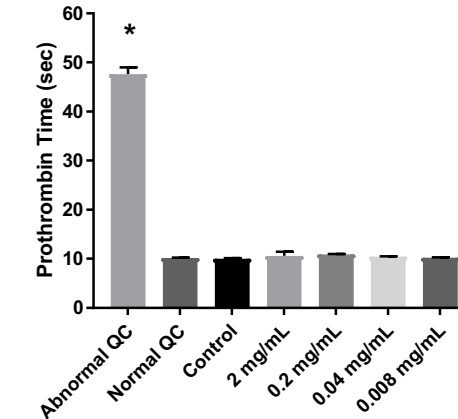
F.



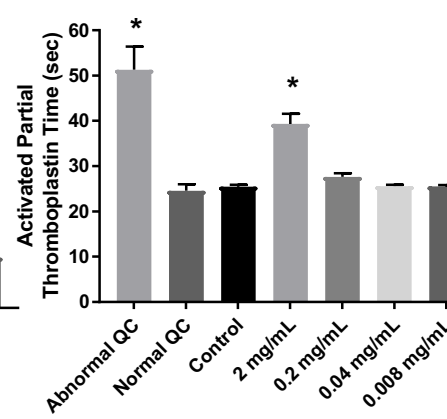
G.



H.



I.



J.

