

Effective targeted therapy for drug-resistant infection by ICAM-1 antibody-conjugated TPGS modified β -Ga₂O₃:Cr³⁺ nanoparticles

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Figure S1. Morphology observation of I-TPGS/Ga₂O₃.

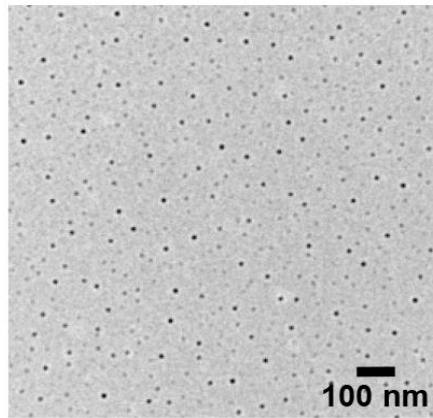
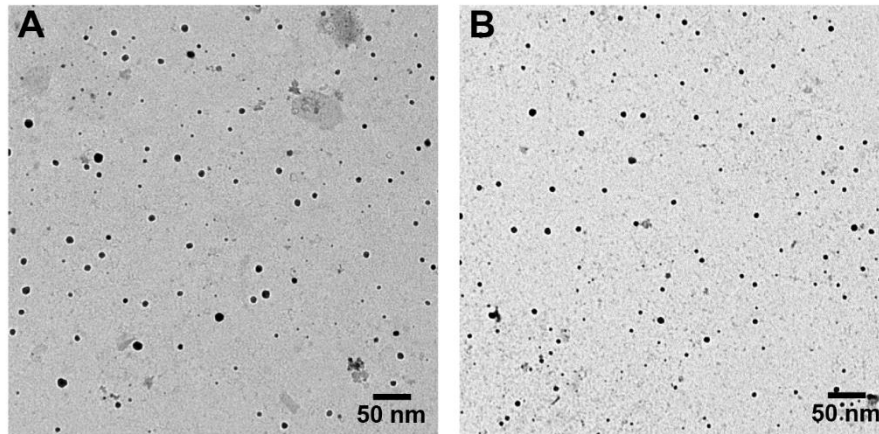
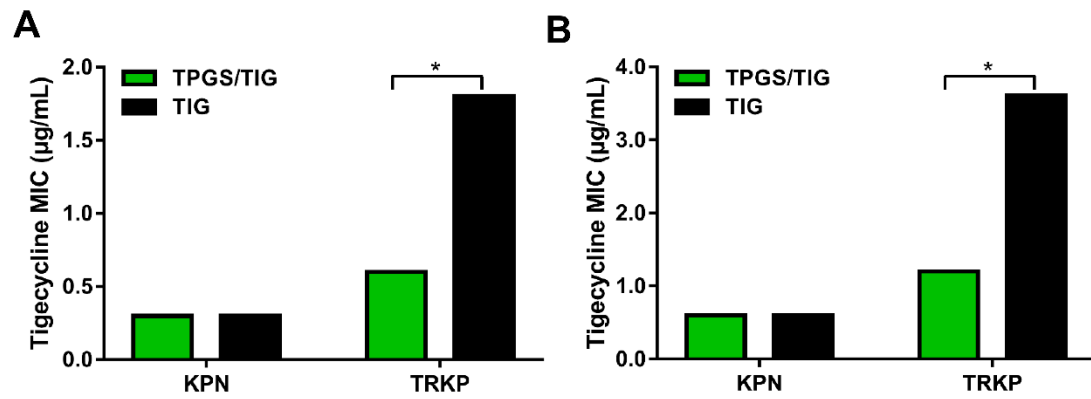


Figure S2. Morphology observation of I-TPGS/Ga₂O₃/TIG.



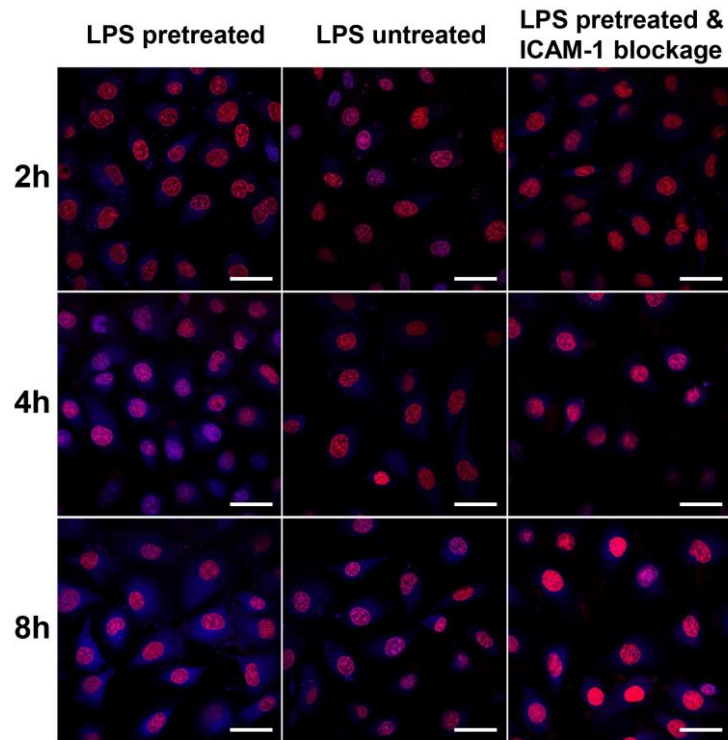
(A) TEM image of I-TPGS/Ga₂O₃/TIG before the pH 5.5 drug release study; **(B)** TEM image of I-TPGS/Ga₂O₃/TIG after the pH 5.5 drug release study.

Figure S3. *In vitro* antibacterial studies of TPGS/TIG and control samples on KPN and TRKP.



(A) MIC susceptibility semiquantitative profiles of TPGS/TIG and TIG against KPN and TRKP using microplate broth dilution method (n=3). (B) MBC susceptibility semiquantitative profiles of TPGS/TIG and TIG against KPN and TRKP (n=3). *p<0.05.

Figure S4. Cellular uptake study.



The cellular fluorescent uptake images of I-TPGS incubated with HUEVC for 2 h, 4 h and 8 h in the presence or absence of LPS pretreatment and ICAM1 blockage, respectively. HUEVC were labelled with DAPI (red), and the blue fluorescence signal indicated the excited blue fluorescence from $\beta\text{-Ga}_2\text{O}_3\text{:Cr}^{3+}$. The bar is 40 μm .

Figure S5. Body weights of the acute KPN-infected and TRKP-infected pneumonia mice within 5 days after treatments.

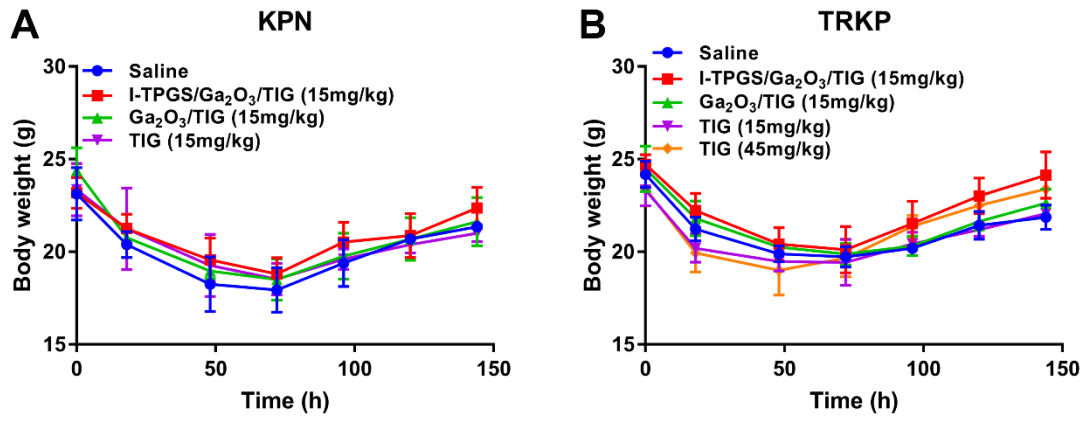


Table S1. Haematology parameters of mice in control group and I-TPGS/Ga₂O₃/TIG treated group (mean \pm SD, n = 6).

Blood chemistry parameters	Control group	Experimental group
WBC ($10^9/L$)	3.70 \pm 1.19	4.17 \pm 1.23
Lymph ($10^9/L$)	3.15 \pm 0.45	3.27 \pm 0.74
Mon ($10^9/L$)	0.10 \pm 0.07	0.10 \pm 0.08
Gran ($10^9/L$)	0.85 \pm 0.23	0.80 \pm 0.20
RBC ($10^{12}/L$)	7.60 \pm 0.12	7.79 \pm 1.24
HGB (g/L)	131.33 \pm 2.12	134.00 \pm 11.38
HCT (%)	42.87 \pm 2.55	42.20 \pm 6.97

* The white blood cell (WBC) count, lymphocytes (Lymph) count, monocytes (Mon) count, neutrophilic granulocyte (Gran) count, red blood cell (RBC) count and haemoglobin (HGB) of the whole blood were determined.