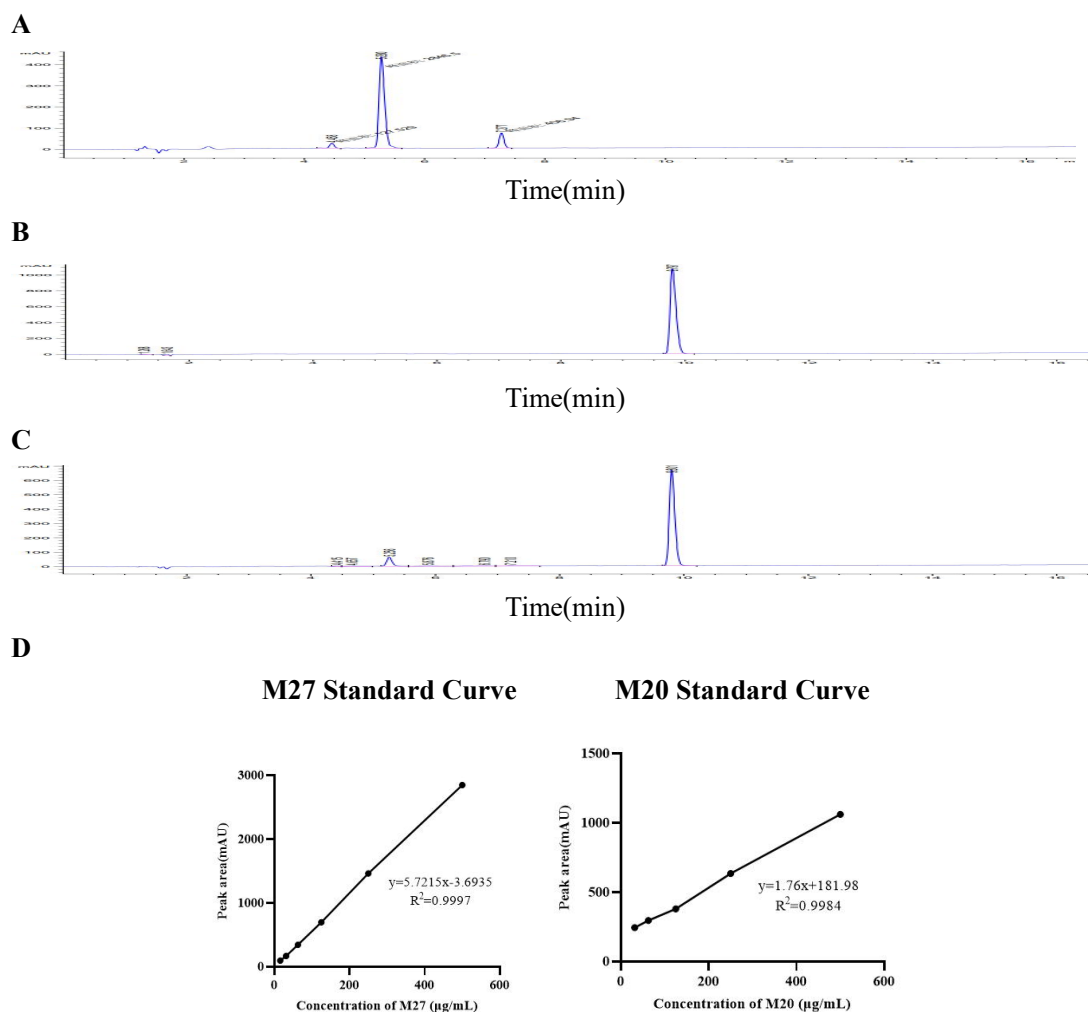


Supporting Information

A dual-adjutant neoantigen nanovaccine loaded with imiquimod and magnesium enhances antitumor immune responses of melanoma

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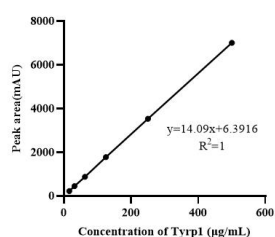
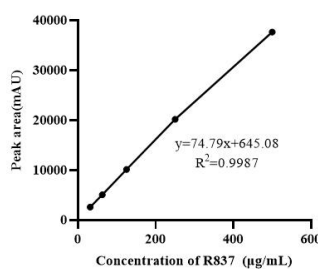
Tyrp1 Standard Curve**R837 Standard Curve**

Fig S1 HPLC chromatogram of peptide and R837 in nanoparticles. (A) HPLC chromatogram of M27 which was a neoantigenic peptide of melanoma. (B) HPLC chromatogram of R837 (C) HPLC chromatogram of the mixture which had peptide and R837. The components were well separated under the same chromatographic conditions. (D) Different neoantigenic peptides and R837 had good standard curve.

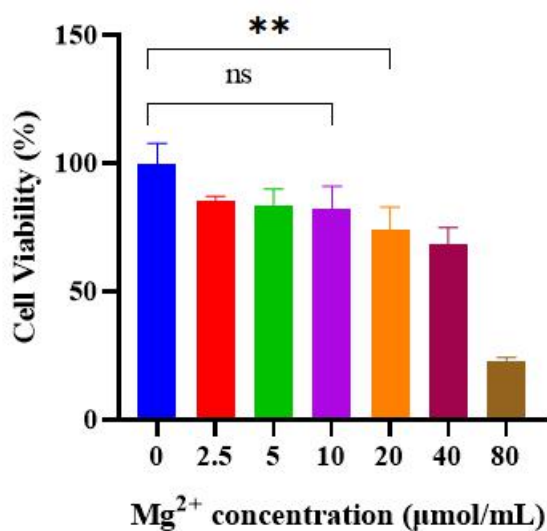


Fig. S2 Safety of BMDCs with different concentrations of $MgCl_2$. After incubating different concentrations of $MgCl_2$ with BMDCs cells for 12h, CCK8 reagent was added and its toxic effects were verified by absorbance.

24h

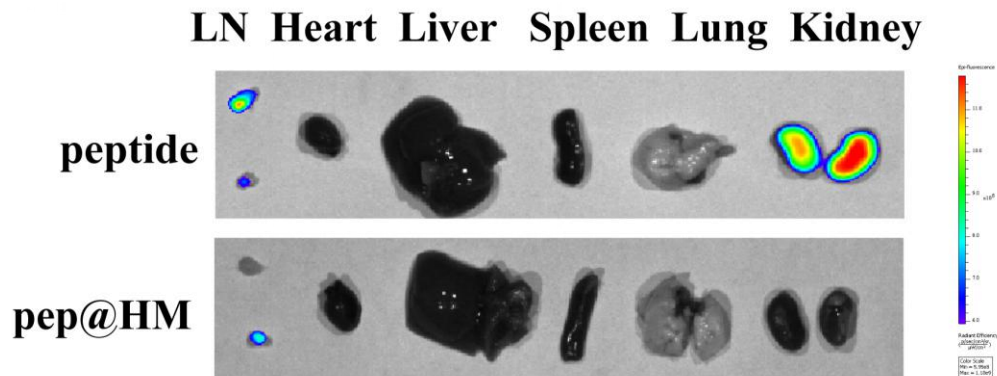


Fig. S3 Fluorescence imaging of heart, liver, spleen, lung, kidney and lymph nodes of mice after 24h. The kidneys of the antigenic peptide group showed strong fluorescence.

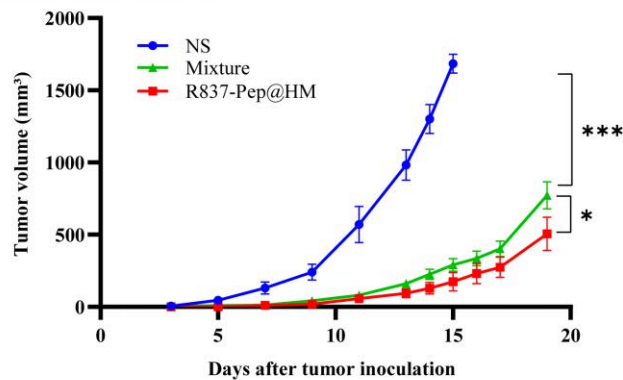


Fig. S4 Average tumor-growth curves of C57BL/6 mice bearing B16F10 melanoma with saline, R837-Pep@HM NPs, Mixture (contain R837, tumor neoantigens and HM NPs) (n= 6). The error bars show mean \pm SEM. *p*-values were calculated by two-way ANOVA. **p*<0.05, ****p*<0.001.