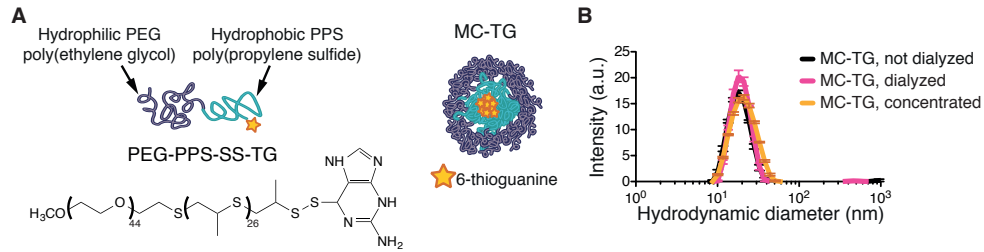


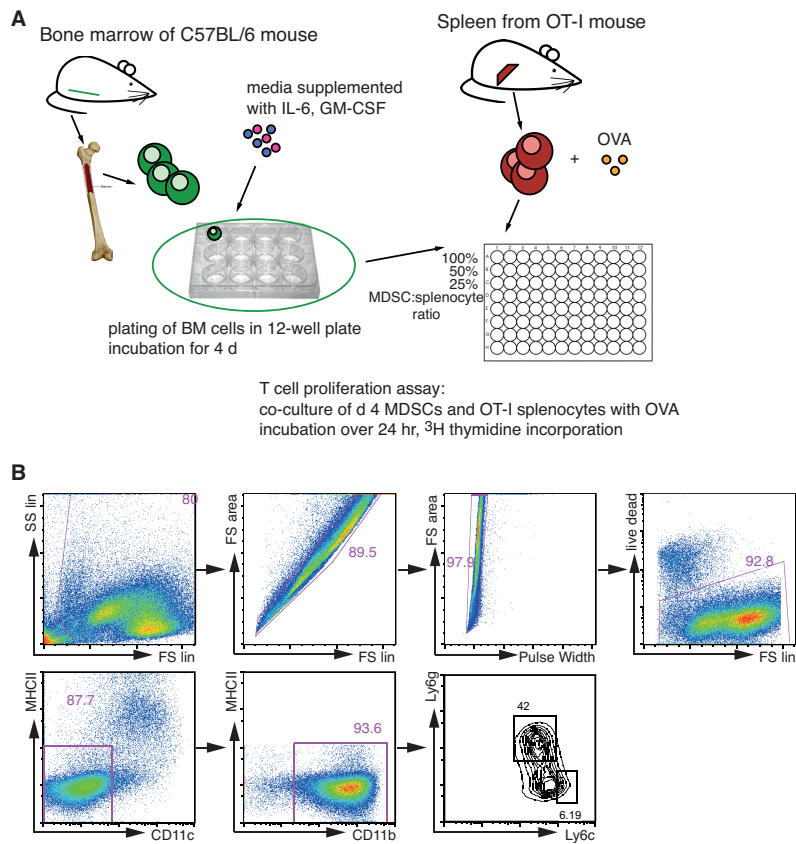
## Supplementary material

### Figure S1



**Figure S1. Formulation and characterization of MC-TG. (A) Structure and (B) characterization by DLS of 6-thioguanine micelles (MC-TG) at the different steps of purification.**

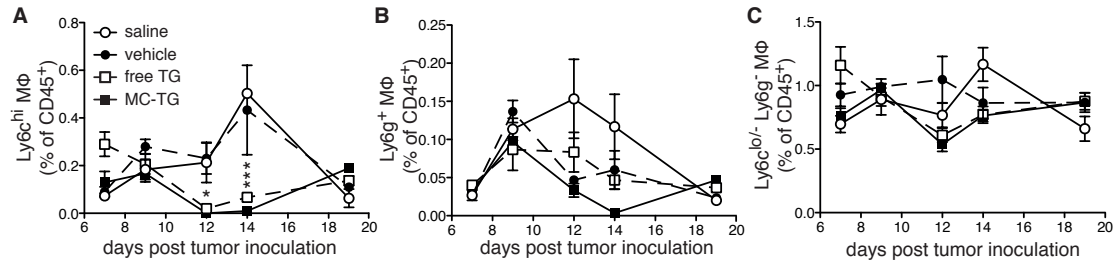
Figure S2



**Figure S2. *In vitro* bone marrow culture and gating strategy. (A)** Generation of MDSCs *in vitro* from bone marrow and MDSC co-culture with OT-I splenocytes and OVA. **(B)** Gating strategy of cells analyzed by flow cytometry: cells are selected by SS vs FS gating, singlets, live cells, MHCII<sup>-</sup> CD11c<sup>-</sup> gating, then CD11b<sup>+</sup>, and finally Ly6c<sup>hi</sup> and Ly6g<sup>+</sup> cells are analyzed.

## Figure S3

E.G7-OVA lymphoma

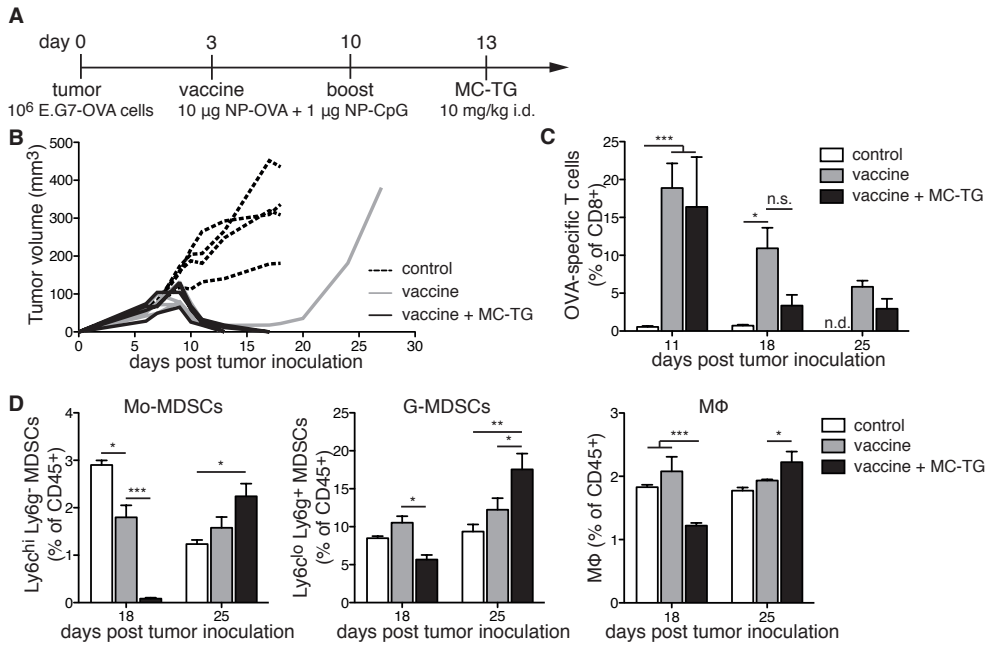


**Figure S3. MC-TG depletes circulating monocytes in tumor-bearing mice.**

Proportion of circulating **(A)** Ly6c<sup>hi</sup> Mφ, **(B)** Ly6g<sup>+</sup> Mφ, and **(C)** Ly6c<sup>lo/-</sup> Ly6g<sup>-</sup> Mφ over time as percentage of CD45<sup>+</sup> cells in E.G7-OVA tumor-bearing mice injected 7 d p.i. with 10 mg/kg TG i.d. in the 4 footpads. Experiments repeated, 4-5 mice per group.

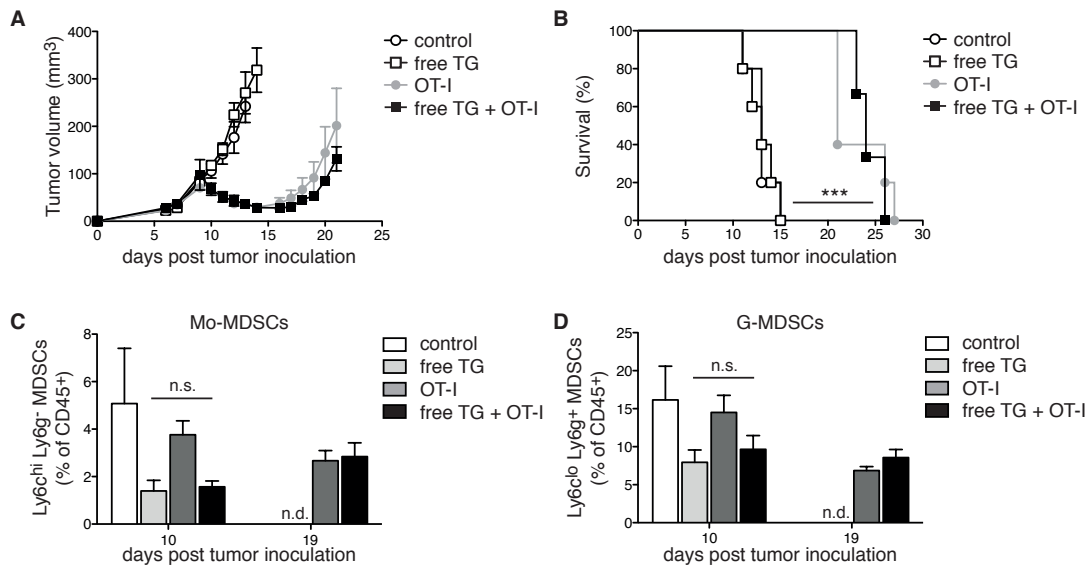
\*\*\*P<0.001, \*\*P<0.01, \*P<0.05. [MDSCs defined as CD11b<sup>+</sup> MHCII<sup>-</sup>, Mφ as CD11b<sup>+</sup> MHCII<sup>+</sup>, B cells as B220<sup>+</sup>, T cells as CD3<sup>+</sup>]

Figure S4



**Figure S4. Depleting MDSCs does not increase the efficiency of a NP-based cancer vaccine in E.G7-OVA bearing mice. (A)** Injection timeline of E.G7-OVA tumor-bearing mice immunized on d 3 and 10 with 10 μg NP-OVA + 1 μg NP-CpG i.d. in the front footpad and injected 7 d p.i. with 10 mg/kg MC-TG i.d. **(B)** E.G7-OVA tumor volumes of each individual mouse. **(C)** Proportion of OVA-specific CD8<sup>+</sup> T cells as determined by SIINFEKL-MHCI pentamer staining. **(D)** Proportion of Mo-MDSCs, G-MDSCs, and Mφ as percentage of CD45<sup>+</sup> cells. 4 mice per group, \*\*\*P<0.001, \*\*P<0.01, \*P<0.05, n.s. not significant, n.d. no data. [MDSCs defined as CD11b<sup>+</sup> MHCII<sup>+</sup>]

Figure S5



**Figure S5. Free TG does not enhance the efficacy of adoptive T cell therapy. (A)**

Tumor volumes and **(B)** survival of B16.OVA tumor-bearing mice injected with 10 mg/kg free TG i.d. in all 4 footpads 4 d p.i. and with  $10^6$  activated OT-I T cells adoptively transferred i.v. 6 d p.i.. Proportion of **(C)** Mo-MDSCs and **(D)** G-MDSCs in the blood (as percentage of CD45<sup>+</sup>). 4-6 mice per group, \*\*\*P<0.001, n.s. not significant, n.d. no data.

[MDSCs defined as CD11b<sup>+</sup> MHCII<sup>-</sup>]