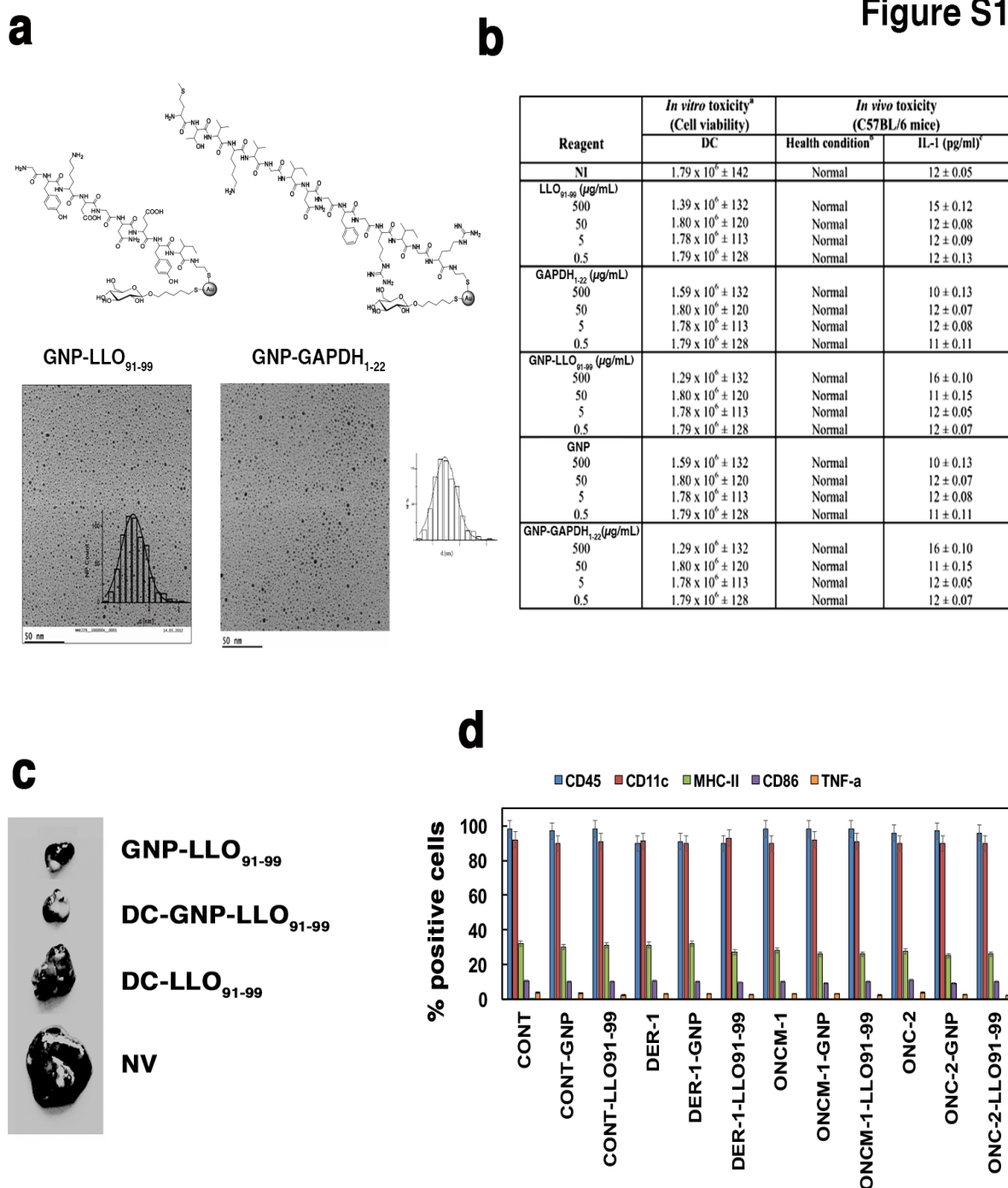


Supporting Figures.

**Figure S1**



**Figure S1.- GNP-LLO<sub>91-99</sub> controls *in vivo* and *in vitro* to establish doses lacking *in vitro* and *in vivo* toxicities, while showing maximal effect in tumour reduction and MoDC activation. Panel a shows the schematic representation of nanovaccines used in this study and transmission electron microscopy image (100,000 x magnification) with nanometric size histograms of the gold core of nanovaccines. Panel b shows toxicity controls of nanovaccines and peptides at different concentrations (0.5-500 μg/mL). *In vitro* assays are performed in MoDCs of healthy donors (1 x**

10<sup>6</sup> cells) incubated with different concentrations of nanovaccines or peptides at 37 °C for 16 h and examined for viability tests using Trypan blue staining. Results are expressed as the mean of unstained cells  $\pm$  SD. ( $P < 0.5$ ). *In vivo* assays are performed in C57BL/6 mice (n = 10), *i.p* inoculated with different concentrations of nanovaccines or peptides for 24 h. Health conditions correspond to evaluation of the following parameters: temperature, mobility test, hair appearance and weight. Normal evaluation corresponds to all parameters in the normal ranges. Cytokines are measured in mice sera by FACS and results expressed as the mean of cytokine concentration (pg/mL)  $\pm$  SD. ( $P < 0.5$ ). 50  $\mu$ g/mL concentration and lower, lacked *in vivo* or *in vitro* toxicity and was chosen as reference. Panel **c** shows melanoma recovered from mice vaccinated with a single dose of 50  $\mu$ g/mL of different vaccines and next *i.p* inoculated with B16OVA melanoma as in Methods, melanoma tumours were recovered from sacrificed mice. Panel **d** shows the adjuvant effect of 50  $\mu$ g/mL of GNP, LLO<sub>91-99</sub> peptide or no adjuvant onto MoDC of healthy donors (CONT) or selected patients with primary melanoma (DER-1), metastatic melanoma (ONCM-1) or oncologic patients with other metastatic tumours (ONC-1), for 16 h at 37°C. Cell surface markers are examined using different fluorescent labelled antibodies by FACS, as well as cytokine concentrations of the sera of patients. Results are expressed as the mean  $\pm$  SD. ( $P < 0.5$ ).