## ABSTRACT

## COMPOSITIONS AND METHODS FOR THE PREVENTION AND TREATMENT OF CANCER

Conventional cancer immunotherapy falls short at efficiently expanding T cells that specifically target cancerous cells in numbers sufficient to significantly reduce the tumor size or cancerous cell number *in vivo*. To overcome this limitation, provided herein are nanoparticles coated with MHC class I and/or class II molecules presenting tumor-specific antigens and co-stimulatory molecules and their use to expand antigen-specific anti-tumorigenic T cells to levels not achieved in current immunotherapeutic techniques. These antigen-specific anti-tumorigenic T cells include cytotoxic T cells, effector T cells, memory T cells, and helper T cells that are necessary to initiate and maintain a substantial immune response againstmetastatic or non-metastaticcancerous, pre-cancerous, or neoplastic cells *in vivo*. The present invention describes a systemic approach to targeting cancerous or pre-cancerous cells that are circulating cells, as in lymphomas, migratory metastatic cells, and solid tumors.

FIG. 1