

## Mesoporous Silica Nanomaterials for Cancer Vaccine

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Cancer immunotherapy has been recognized as a promising therapeutic method for cancer treatment. To boost up host immune responses against cancer, antigen presenting cells (APCs) and cytotoxic T cells need to be activated to overcome the immunosuppressive microenvironment of tumor. Dendritic cells are the most potent APCs which connect innate immunity and adaptive immunity by delivering antigenic information to naïve T cells upon activation. Our group has studied materials-based DC activation to enhance antigen-specific adaptive immune responses against cancer. In this talk, I will introduce our recent findings on how mesoporous silica particles with different chemical and physical characteristics can be used as cancer vaccine for activation of DCs and T cells in order to suppress tumor growth.