

[Open Peer Review on Qeios](#)

NSCLC Antigen-Loaded Dendritic Cell-derived Exosomes

National Cancer Institute

Source

National Cancer Institute. *NSCLC Antigen-Loaded Dendritic Cell-derived Exosomes*. NCI Thesaurus. Code C91738.

Exosomes loaded with non-small cell lung cancer (NSCLC)-specific antigens, with potential immunostimulating and antineoplastic activities. Exosomes derived from autologous maturing dendritic cells (DCs) are pulsed with HLA-DP04-restricted MAGE-3, and HLA-A02-restricted peptides NY-ESO-1, MAGE-1, MAGE-3, and MART-1. Upon vaccination, these exosomes may stimulate natural killer (NK) cell activation and proliferation, restoration of NKG2D expression on NK cells, and antigen-specific T-cell responses. This may eventually lead to inhibition of tumor cell proliferation in NSCLC expressing these specific tumor antigens. These exosomes, nanovesicles secreted from DCs, are embedded with molecules necessary for potent immune responses on the exosomal surface, such as MHC class II molecules, CD40, ICAM-1, IL-15Ralpha, and NKG2D ligands.