HLA-A1-Binding MAGE-1/MAGE-3 Multipeptide-Pulsed Autologous Dendritic Cell Vaccine

National Cancer Institute

Source

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A cell-based cancer vaccine composed of autologous dendritic cells (DCs) pulsed with human leukocyte antigen (HLA)-A1-binding melanoma-associated antigen peptides MAGE-1 and MAGE-3 with potential immunomodulating and antineoplastic activity. Upon vaccination, HLA-A1-binding MAGE-1/MAGE-3 multipeptide-pulsed autologous dendritic cell vaccine may stimulate the host immune system to mount an anti-tumoral cytotoxic T lymphocyte (CTL) and antibody responses against MAGE1- and MAGE-3-expressing cancer cells, resulting in tumor cell lysis. HLA-A1 is an MHC class I molecule that presents antigenic peptides to CD8+ T cells; epitope design restricted to epitopes that bind most efficiently to HLA-A1 may improve antigenic peptide immunogenicity.