Ad-sig-hMUC-1/ecdCD40L Vaccine

National Cancer Institute

Source

National Cancer Institute. Ad-sig-hMUC-1/ecdCD40L Vaccine. NCI Thesaurus. Code C77910.

A cancer vaccine consisting of a recombinant adenoviral vector encoding the tumor-associated antigen (TAA) human MUC-1 (hMUC-1) linked to the extracellular domain (ecd) of the co-stimulatory molecule CD40 ligand (CD40L) and an adenovirus signal sequence that encodes a secretory signal peptide (Ad-sig) with potential immunostimulating and antineoplastic activities. Due to the presence of the secretory signal peptide expressed by Ad-sig in the vaccine construct, transfected cells may secrete a fusion protein composed of hMUC-1 and the CD40L ecd. The CD40L moiety part of the fusion protein binds to CD40 receptors on dendritic cells (DCs). Subsequently, DCs may be activated and migrate, T-cells may expand, and a cytotoxic T lymphocyte (CTL) response against tumor cells that overexpress hMUC-1 may follow. MUC-1 is a hypoglycosylated TAA overexpressed by epithelial cancer cells.