

HLA-A*0201 Restricted TERT(572Y)/TERT(572) Peptides Vaccine Vx-001

National Cancer Institute

Source

National Cancer Institute. *HLA-A*0201 Restricted TERT(572Y)/TERT(572) Peptides Vaccine Vx-001*. NCI Thesaurus. Code C111689.

A peptide-based cancer vaccine consisting of two human leukocyte antigen (HLA)-A*0201 restricted 9-mer epitopes derived from the human telomerase reverse transcriptase (hTERT), TERT 572Y (YLFFYRKSV; TYR-Vx001) and TERT 572 (RLFFYRKSV; ARG-Vx001), with potential immunostimulating and antineoplastic activities. Subcutaneous injection of TERT (572Y) peptide followed by subcutaneous administration of the TERT (572) peptide may elicit a specific and possibly optimal cytotoxic T cell (CTL) response against hTERT-expressing tumor cells. hTERT, the catalytic subunit of human telomerase, is an human leukocyte antigen-A*0201-restricted cryptic epitope of telomerase. TERT is expressed in the majority of human cancer cells, is not expressed or is expressed at very low levels in normal cells and plays a key role in tumorigenesis. TERT 572Y is the optimized variant of the native cryptic peptide TERT 572 in which tyrosine has been substituted for an arginine at position 1; TERT 572Y shows increased HLA-A*0201 binding affinity compared to TERT 572.