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Ad5 [E1-, E2b-]-HER2/Neu Vaccine ETBX-021

National Cancer Institute

Source

National Cancer Institute. *Ad5 [E1-, E2b-]-HER2/Neu Vaccine ETBX-021*. NCI Thesaurus. Code C150517.

A cancer vaccine composed of a genetically engineered, replication-defective oncolytic adenovirus serotype 5 (Ad5) vector, in which the E1, E2b and E3 genes are deleted, that encodes a modified version of the tumor-associated antigen (TAA) human epidermal growth factor receptor 2 (HER2/neu; ErbB-2; ERBB2), with potential antineoplastic activity. Upon administration of Ad5 [E1-, E2b-]-HER2/neu ETBX-021, the vector expresses HER2/neu and induces a cytotoxic T-lymphocyte (CTL)-mediated immune response against tumor cells expressing the HER2/neu antigen. This results in the immune-mediated induction of death in and inhibition of proliferation of HER2/neu-expressing tumor cells. HER2/neu, a member of the epidermal growth factor receptor (EGFR) family of tyrosine kinases, is overexpressed in various tumor cell types while expression is restricted and minimal in certain normal healthy cells. It plays a key role in cancer cell proliferation and survival. The gene deletions in Ad5 may circumvent pre-existing anti-adenovirus immunity, allow HER2 gene insertion and expression and induce a strong immune response.