

[Open Peer Review on Qeios](#)

PUMVC3-IGFBP2-HER2-IGF1R Plasmid DNA Vaccine

National Cancer Institute

Source

National Cancer Institute. *pUMVC3-IGFBP2-HER2-IGF1R Plasmid DNA Vaccine*. NCI Thesaurus. Code C127910.

A polypeptide plasmid DNA vaccine containing the mammalian expression vector pUMVC3 encoding epitopes derived from three tumor-associated antigens (TAAs): human insulin-like growth factor-binding protein 2 (IGFBP2), human epidermal growth factor receptor 2 (HER2; ERBB2) and insulin-like growth factor 1 receptor (IGF1R), with potential immunostimulating and antineoplastic activities. Upon intradermal vaccination, pUMVC3-IGFBP2-HER2-IGF1R plasmid DNA vaccine transfects local keratinocytes, which process the plasmid, express the epitopes and present them to antigen-presenting cells (APCs). This activates the immune system to mount a combined response from specific T helper type 1 (Th1) cells, memory T-cells and cytotoxic T-lymphocytes (CTL) against IGFBP2-, HER2-, and IGF1R-expressing tumor cells. IGFBP2, HER2, and IGF1R are tumor-associated proteins overexpressed in certain tumor cell types, and play key roles in cellular proliferation and survival.