Tavokinogene Telseplasmid

National Cancer Institute

Source

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A DNA plasmid that encodes genes for both the p35 and p40 subunits of the heterodimeric human interleukin 12 (hIL-12) protein that are separated by an internal ribosome entry site (IRES) and under the control of a single cytomegalovirus (CMV) promoter, with potential immunomodulatory and antineoplastic activities. Upon administration via intratumoral injection and electroporation, the plasmid is introduced into human cells resulting in expression and highly-localized secretion of a functional IL-12 p70 protein into the tumor microenvironment (TME). IL-12 is a pro-inflammatory cytokine that plays a significant role in priming and maintaining T-helper (Th) cells, activating natural killer (NK) cells, and regulating the reactivation and survival of memory T-cells (Tm). Increased levels of IL-12 in the TME may augment host immune response against tumor cells by inhibiting regulatory T-cells (Tregs), T-helper 2 (Th2) responses, and myeloid-derived suppressor cells (MDSCs).