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MVX-1-loaded Macrocapsule/autologous Tumor Cell Vaccine MVX-ONCO-1

National Cancer Institute

Source

National Cancer Institute. *MVX-1-loaded Macrocapsule/autologous Tumor Cell Vaccine MVX-ONCO-1*. NCI Thesaurus. Code C123382.

A two-component, anti-cancer vaccine containing irradiated tumor cells from a patient, and a capsule implanted with a genetically modified allogeneic cell line that continuously releases granulocyte-macrophage colony stimulating factor (GM-CSF), with potential immune-protective and -boosting activities. Upon subcutaneous injection of MVX-1-loaded macrocapsule/autologous tumor cell vaccine MVX-ONCO-1, the GM-CSF-secreting allogeneic cell capsules and the autologous irradiated cells isolated from the patient's tumor are co-localized in the patient's tissue. This permits the production of GM-CSF and exposes the immune system to the tumor-associated antigens (TAA) expressed by the autologous tumor cells at the injection site. Local expression of GM-CSF recruits and activates antigen-presenting cells (APC), which induces both antibody-dependent cell-mediated cytotoxicity (ADCC) and cytotoxic T-lymphocyte responses at the site of the injection and systemically. This may lead to tumor regression. By using the patient's own irradiated cancer cells as vaccine antigens, the patient's immune system is exposed to the entire repertoire of this individual's TAAs. The encapsulated cell technology (ECT) of GM-CSF-secreting allogeneic cell capsules ensures the continuous release of GM-CSF. GM-CSF, a monomeric glycoprotein that functions as a cytokine, is a strong immune booster and plays an important role in the activation of immune system.