

Non Technical Abstract

TroVax is a novel type of therapy, called an immunotherapy vaccine, which is designed to induce the body's own immune system to attack and kill cancer cells. TroVax vaccine is based on a safe and well known vaccine, which has been used for many years to give protection from smallpox i.e. the smallpox vaccine, which is produced using a modified vaccinia virus. TroVax is based on the modified vaccinia virus, Ankara, known as MVA, which is particularly safe for use in all cross sections of the public, including older people and children.

TroVax has been designed to enter cells at, or close to the injection site, and once inside the cells it produces a protein called 5T4. 5T4 is a specific protein which is usually present on the surface of cells within the placenta during pregnancy, and is also present in high levels on the surface of cancer cells e.g. colorectal, breast and renal cancer cells. The protein is also produced in very low levels by a few normal tissues, such as pituitary gland or oesophagus (gullet).

When TroVax produces 5T4, the body's immune system becomes alerted to it as a "foreign" protein. This does not happen when 5T4 is on the surface of the placenta cells or tumour cells under "normal" conditions of pregnancy or disease. Once the immune system is alerted to 5T4 in this way, there is an expansion of the cells in the immune system, which are then targeted to recognise 5T4 protein on the cancer cells. We hope that this immune response will ultimately kill the cancer cells or inhibit their growth.

TroVax has demonstrated a good safety profile in both pre-clinical and clinical studies. In early clinical trials, for patients with colorectal cancer and renal cancer, TroVax was given as an injection into the muscle. At the optimum dose strength tested, TroVax was found to be safe and well tolerated, producing only mild side effects, such as swelling at the injection site or mild "sweats". The vaccine was also shown to stimulate the immune response, 2-8 weeks after the start of vaccination in all patients treated.

The proposed clinical trial in patients with renal cancer will use the same route of injection i.e. into the muscle, and dose strength of TroVax which was shown to be safe in the previous clinical trials. TroVax will be given in combination with Interferon alpha (INF- α), which is another treatment for renal cancer. The main aims of this TroVax trial are summarised as follows:

Primary efficacy objective

To assess whether the addition of TroVax[®] to first line standard of care treatment, will prolong survival of patients with locally advanced or metastatic clear cell renal adenocarcinoma when compared to placebo.

Primary safety objective

To assess whether the addition of TroVax[®] to first line standard of care alters the profile of serious and non-serious adverse events, when compared to placebo, in patients with locally advanced or metastatic clear cell renal adenocarcinoma.

If the first two criteria are met in that TroVax increases survival and is safe, the data will form the basis for product registration.