Richard Vile

Richard Vile, Ph.D., and his research team develop experimental cancer therapies, all based on stimulating antitumor immune responses.

Dr. Vile's research combines in vivo and in vitro assays, but predominantly focuses in murine immune-competent models and syngeneic tumors. Although his team has a major interest in melanoma, they also have models of prostate cancer, glioma and brain metastases, and can be applied across tumor sites.

Focus areas

Oncolytic viruses (OV) have been one of Dr. Vile's key areas of research for several years, and his team previously demonstrated the critical role of the immune system in successful therapy with OV. In addition to making OV expressing cytokines and tumor-associated antigens, they have developed a novel approach in which the vesicular stomatitis virus (VSV) can be engineered to express a library of tumor antigens, resulting in exceptional treatment.

Adoptive cell therapy (ACT) is one of few treatments shown to be effective for patients with melanoma. In preclinical models, Dr. Vile's team demonstrated that combining ACT with OV can improve its effectiveness. Chimeric antigen receptor (CAR) T-cells are an exciting prospect, and there are reports of excellent responses in the few leukemia patients who have been treated so far. His research team is exploring this therapy, with the goal of generating CAR against more tumor types. Radiotherapy, though classically an immunosuppressive treatment, is now known to have many potentially helpful effects when combined with immunotherapies. The team is studying the combination of radiotherapy, both external beam and brachytherapy, with our other immune-based approaches. Significance to patient care

All of this work is intended to help patients with cancer. Dr. Vile's team deliberately focuses on developing therapies that can be rapidly taken to clinical trials. Accordingly, the team works closely with the Mayo Clinic team, as well as those at other U.S. hospitals and worldwide, and have been directly involved in clinical trials of several oncolytic viruses.

An ongoing clinical trial for patients with hepatocellular carcinoma is being performed at Mayo Clinic in Arizona with a VSV the team designed to express interferon. Internationally, Dr. Vile's research lab has strong links with researchers in the UK and other countries, to test OV in patients with a range of cancers.