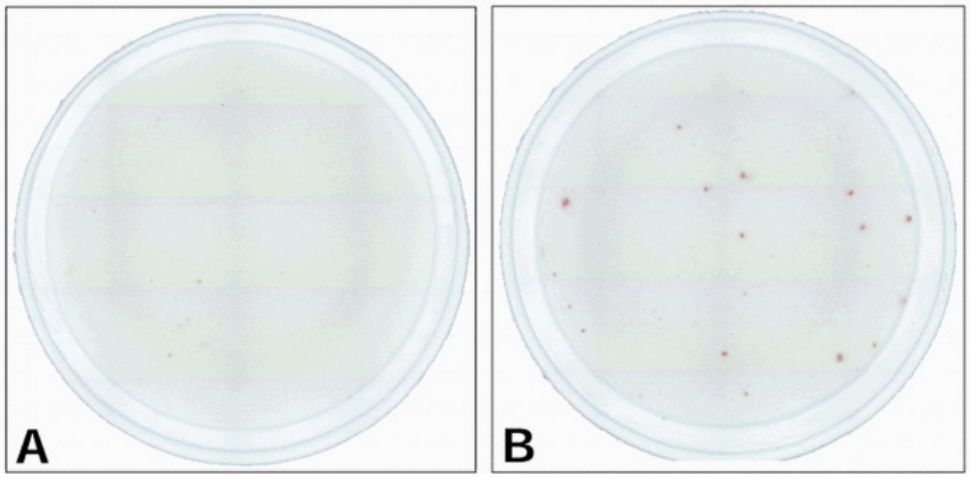
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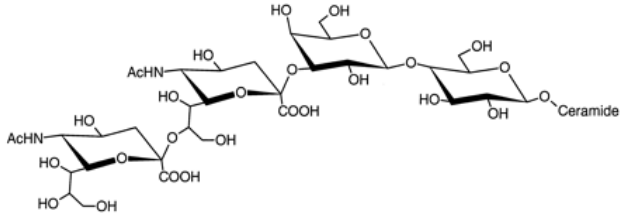
Development of New Cancer Therapies

The ultimate goal of our research efforts is to translate discoveries into clinical applications for diagnosis, prevention and treatment of cancer. Molecules and strategies for inducing effective cancer immunity that are discovered and characterized in our laboratory serve as a basis for developing experimental therapies. These treatments are often translated into clinical trials. Examples include a laboratory studies with monoclonal antibodies, cytokines and cancer vaccines which have generated clinical trials, which in some cases have gone on to late stage phase III clinical studies. For example, we designed and conducted the clinical trial that first demonstrated the effectiveness of monoclonal antibodies for the treatment of solid tumors.

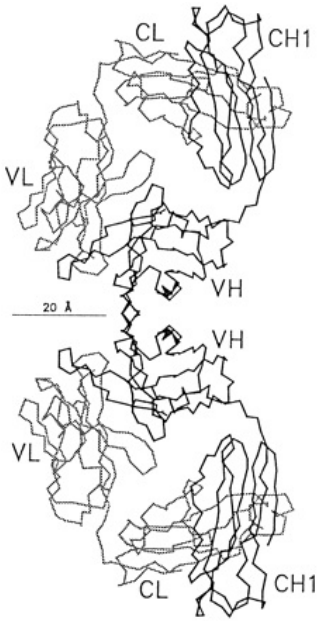
We are presently investigating active immunization with plasmid DNA in clinical trials, using different delivery systems, in patients with melanoma, prostate, and breast cancer and immune modulation with a blocking monoclonal antibody against CTLA-4 in patients with melanoma. Evaluation of specific immune responses against cancer is a critical component of this clinical research, and requires sensitive and reproducible assays. Members of the laboratory have developed and validated assays to measure antibody and T cell responses in patients undergoing treatment, including ELISPOT assay and 8-9 parameter flow cytometry for evaluating proportions of activated, functional lymphocyte populations. We have established a strong collaboration with Dr. Philip J. Bergman at the Animal Center of New York to investigate new cancer immunotherapies for treatment of companion animals with cancer. Companion animals live in the same milieu as humans, are exposed to similar environmental factors, and develop types of cancers that are comparable to human cancers. This collaboration provides access to some of the newest treatments to companion animals with cancer and helps facilitate and accelerate accelerates translation into clinical trials in humans.



T-cell repertoire measured by ELISPOT assay before (A) and after (B) vaccination with tyrosine peptide and adjuvant.



GD3 ganglioside, a target for monoclonal antiobody therapy.



Crystal Structure of R24 Antibody

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PREVIOUS
Pathogenesis and Treatment of Melanoma

NEXT
The Role of Cell-Surface Peptidases in Inflammation, Malignant Transformation, and Cancer Progression

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