

# Human Immune Therapy Center

University of Virginia

*"Targeting Cancer with the Immune System"*

Director, Craig L. Slingluff, MD

Co-Director, Victor Engelhard, Ph.D.

Winter 2001

## Inside this Issue

1 Gift to HIT Center

1 Laboratory Space

1 Melanoma Peptide Study Started

2 ECOG Trial Proposed

2 Whole Cell Tumor Vaccine

2 Evaluation of Peptide Vaccine Immunogenicity

2 Current UVA Clinical Trials

Human Immune Therapy Center  
University of Virginia  
Cancer Center  
Box 800334  
Charlottesville, Virginia 22902  
E-mail: [HIT-Center@virginia.edu](mailto:HIT-Center@virginia.edu)  
Web Page:  
<http://www.med.virginia.edu/medcntr/cancer/immunotherapy/home.html>

## \$3.9 million gift will further the mission of the HIT Center

The Human Immune Therapy (HIT) Center has received a generous gift of \$3.9 million from Mr. W. Goodwin. The gift will be given over 3 years. This is in addition to over \$200,000 donated by other generous support. The gift will allow us to develop a multi-site clinical trial through an Office of Collaborative Studies, develop several different cancer immunotherapy trials, and purchase peptides for use in the trials. The Office of Collaborative Studies will be in charge of developing strategic alliances with other cancer centers throughout the United States. Through the alliances, the HIT will be able to offer our peptide-based cancer vaccine trials to other patients at several different institutions. By offering our peptide based cancer vaccines at other sites, some patients who have to travel great distances, will be able to stay closer to home. Multi-center sites will allow us to treat a greater number of patients in a larger geographic area in a shorter time frame. We will be able to evaluate several different vaccine preparations that are much more complex than we are currently using.

Currently, Dr. Kimberly Bullock, the Director of Protocol Development, is working on several other cancer peptide based vaccine clinical trials

that are based on the HIT melanoma peptide protocols. In collaboration with two different physicians, she is developing a colon cancer peptide based trial as well as an ovarian cancer peptide based clinical trial. Both the colon cancer and ovarian cancer trial are currently in the development phase. The peptides that will be purchased with the gift will be utilized in the two different trials. Both trials are going to be based at the University of Virginia.

## Laboratory Space has been completed

The new Human Immune Laboratory has been completed on the eighth floor of the hospital. It is conveniently located next to the General Clinical Research Center (GCRC). Many of the vaccine patients are seen in the GCRC. The location facilitates easier delivery of prepared vaccine as well as processing of clinical samples. The laboratory will house the Cell Therapy and Immune Monitoring components of the Human Immune Therapy Center. The Cell Therapy section will be responsible for the technical aspect of tumor cell vaccine preparation. The Immune Monitoring section will be responsible for the processing and testing of patient samples to determine if an immune response is being launched by the patient's immune system.

# Melanoma Clinical Trial Started with 12 Peptides

## ECOG Trial Proposed

A new melanoma clinical trial vaccine has been started at the University of Virginia. The new trial (Mel 39), "Evaluation of the Immunogenicity of Vaccination with Multiple Synthetic Melanoma Peptides with GM-CSF-in-Adjuvant, in Patients with Advanced Melanoma" incorporates 12 peptides with the use of granulomonocyte colony stimulating factor (GM-CSF). In the past HIT synthetic peptide trials, only four peptides were used in the vaccine preparation. In this trial, twelve peptides will be used. The clinical trial is a randomized trial. A portion of the patients enrolled in the trial will receive four peptides while the other set will receive twelve. The purpose of this trial is to examine 4 peptide vs. 12 peptides. The expectation is that a larger number of peptides will generate a greater immune response against the melanoma tumor cells. In this study, we wish to determine whether each of the 12 peptides included in the mixture are immunogenic when administered in GM-CSF-in-adjuvant. At least 7 of the 12 peptides included in this study have been used in previous vaccine preparations, and have shown to be immunogenic in humans. The other 5 peptides have been defined as epitopes for melanoma-reactive CTL, but their immunogenicity has not been evaluated directly in humans. This study will be beneficial in that it will allow us to assess the immunogenicity of individual peptides when incorporated into a multi-peptide vaccine.

Dr. Slingluff is developing a collaboration with the Eastern Cooperative Oncology Group (ECOG). We hope to bring the several ECOG trials to the University of Virginia and to run our trials at ECOG sites. ECOG is an oncology group that was established in 1955. It was one of the first groups established to perform multi-center clinical trials. It is one of the largest clinical cancer research organizations in the United States.

## Result of Melanoma Trial Published

The result of the UVA vaccine trial Mel 16, "Phase I trial of a Melanoma Vaccine with gp100<sub>280-288</sub> Peptide and Tetanus Helper Peptide in Adjuvant" was published in *Clinical Cancer Research*, October 2001. The immunologic studies from the patients' blood showed an immunologic response to the peptide in 14% of the twenty-two patients enrolled in the study. The tetanus helper peptide showed a Helper T-cell response in 79% of the patients. The immune response was long term in several patients.

We currently have other manuscripts under development analyzing immunologic endpoints. We also have other clinical trials utilizing an increased number of peptides under development.

## Whole Cell Based Vaccine Underway

A clinical trial utilizing the patient's own tumor as the main component of the vaccine was started. The patient's melanoma tumor is removed during surgery. It is then prepared by the Human Immune Therapy Laboratory to be utilized in a vaccine. The tumor is treated in a manner that prevents the tumor cells from growing after it has been injected back into the patient. The basis for these trials is the hypothesis that the patient's immune system will detect the vaccine based tumor cells and uses that information to launch an immune response against any tumor cells.

## Evaluation of Peptide Vaccine Immunogenicity

In a paper recently published by UVA investigators in the *International Journal of Cancer* (March 2001), results from different immunogenicity tests were reported. Early results of the UVA Mel 31, showed that 5/5 patients with treated with GM-CSF in adjuvant had an immune response. This trial utilized a new method for evaluation of immune response to components of the vaccine, the sentinel immunized node (SIN). A majority of immune testing being performed in this patient population utilizes peripheral blood samples. The study showed a trend towards the SIN being more likely to show an immune response. However, more testing needs to be done in this area to show if this is conclusive.

### Current UVA Clinical Trials

UVA Mel 37: Pilot Study for the Evaluation of Vaccination with autologous Tumor Cells plus GM-CSF-in-adjuvant, followed by Systemic Low Dose IL-2 Administration, in Patients with High Risk Melanoma (HIC#8577)

UVA Mel 39: Evaluation of the