NOVEL IMMUNOTHERAPIES | BREAKTHROUGHS IN CANCER VACCINE RESEARCH

Immunological approaches to treating cancer are attractive because, unlike conventional therapies, they are very specific, non-toxic and have fewer side effects, and have been shown to elicit an effective durable response in cancer patients. Furthermore, immunotherapies have shown great promise in combination therapy where they can augment the effectiveness of other cancer treatments.

Dendritic Cell-Based Vaccines

Over the past 15 years, the Baylor Institute of Immunology Research (BIIR) has been one of the pioneers in the field of cancer vaccines and has become a recognized leader in dendritic cell (DC)-based therapy. Insight into the role of DCs as the pivotal antigen-presenting cells has provided the basis for developing more effective immunotherapy regimens in both solid and hematological cancers.

Harnessing DCs for cancer vaccines is a strategy that has been used at BIIR in several clinical trials, with more than 150 patients with metastatic melanoma treated since 1999. Some of the patients have experienced remarkable tumor shrinkage and long-term survival, demonstrating an effective durable response.

The BIIR research team has developed proprietary autologous vaccine compositions, two of which will enter clinical trials in 2014:

(1) Anakinra (interleukin-1 antagonists) combined with chemotherapy and a proprietary peptide-loaded DC vaccine will be tested in patients with locally advanced, triple-negative breast cancer;

(2) Neoadjuvant chemotherapy combined with a proprietary DC vaccine in patients with newly diagnosed pancreatic cancer.

BIIR has state-of-the-art infrastructure to support the translation of immunotherapeutic research from the laboratory to the clinic, including a GMP manufacturing facility that allows the production of vaccines for clinical trials.

Opportunities

Patent applications have been filed for each of these innovations and are available for licensing. In addition, opportunities for partnering and collaboration for translational research exist within the field of DC vaccines and beyond.

Selected Publications:


