

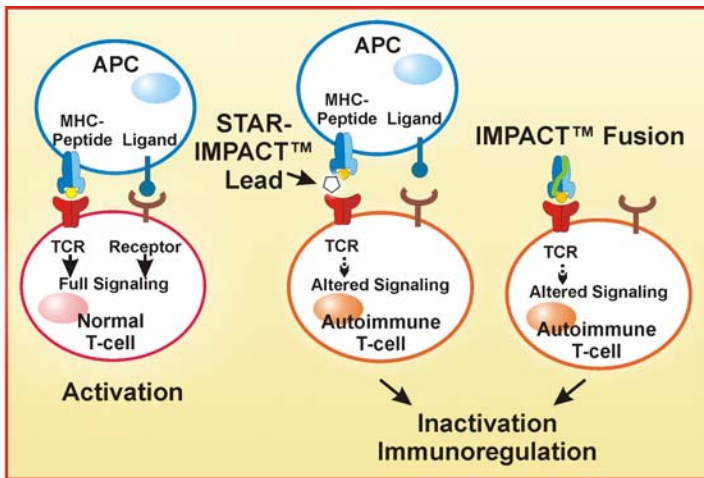
IMPACT™ Therapeutics

For Treatment of Autoimmune Diseases

Altor is developing safe and effective orally available therapeutics for human immune disorders such as autoimmune diseases and allergies. Currently, these diseases are treated with immunosuppressive drugs that disarm multiple components of the immune system leading to limited efficacy and considerable toxicity. IMPACT™ therapeutics are designed to overcome these drawbacks by specifically reducing the reactivity of undesirable immune responses.

Background

Autoimmune diseases, including rheumatoid arthritis, multiple sclerosis, and type II diabetes, are characterized by the dysfunction of key cells in the immune system, called T-cells. Normally, these cells are used by the body to destroy infectious and aberrant materials. In individuals with autoimmune diseases, the T-cells react against the body's own tissues, leading to tissue damage and destruction. The interaction of specialized proteins called T-cell receptors (TCRs), located on the surface of T-cells and MHC-peptide complexes on the targeted tissues, lead to these unwanted immune responses. By changing the activity of these proteins, Altor believes it can selectively modify the immune response associated with a variety of immune system diseases.



Altor's Approach

IMPACT™ (Inhibitor of MHC-Peptide Activation of T-cells) therapeutics are designed to reduce specific autoimmune T-cell activity while leaving the rest of the immune system unaffected. By altering signals produced by receptors on the T-cell surface, these agents act to block autoimmune T-cell responses and promote regulatory T-cell activities. A major advantage of this approach is that it selectively corrects the aberrant immune responses through natural mechanisms responsible for regulating T-cell activity.

Altor's Technology

STAR-IMPACT™ Screening. This drug discovery program is focused on developing orally active agents that specifically suppress autoimmune responses. Novel TCR and MHC-peptide production techniques have allowed Altor to assemble highly sensitive screening methods to identify compounds that block TCR interaction with the MHC-peptide complex. Of particular interest are interactions involving human MHC molecules, such as HLA-DR4 and HLA-DR2, associated with autoimmune diseases or other immune disorders. Using its screening methods with a diverse library of small-molecule compounds, Altor has identified and is optimizing STAR-IMPACT™ leads that inhibit autoimmune T-cell activation. Altor believes that drug candidates discovered through this

approach would have broad application for treating a number of autoimmune diseases. Altor has established proof-of-concept that HLA antagonists can block T-cell responses in animal models and has characterized a number of lead compounds that inhibit HLA-DR4 activity. The immunoregulatory activities of these compounds have been examined in autoimmune models using HLA transgenic mice. Altor is also expanding its STAR-IMPACT™ screening platform to identify inhibitors for other disease-associated MHC molecules.

IMPACT™ Fusions: It has been shown that disease-causing T-cells become inactivated or die when exposed to soluble MHC class II-peptide complexes. However, because of difficulty in producing homogeneous MHC-peptide complexes, therapeutic use of these reagents has been limited. Altor has overcome this problem through the development of its patented single-chain MHC class II. This technology enables the generation of large amounts of fully soluble, bioactive MHC-peptide fusion proteins (IMPACT™ fusions). Because of the unique single-chain design, IMPACT™ fusions exhibit superior stability and ease of manufacture when compared to the native molecules. These advantages have allowed Altor to generate a number of different IMPACT™ fusions, including those associated with human autoimmune diseases. Pre-clinical studies have tested the immunosuppressive activity of IMPACT™ fusions in T-cell mediated autoimmune diseases.

Intellectual Property

Altor has assembled broad, integrated patent positions for its STAR™ and IMPACT™ technologies that include 30 issued U.S. and foreign patents and 57 pending patent applications. This intellectual property estate provides Altor with a strong and leading position for generating novel and versatile classes of targeted therapeutic reagents.

Corporate Strategy

Altor's corporate strategy is to continue to build value through internal drug development programs while exploring new licensing and funding opportunities for diagnostic/therapeutic product technologies. Future financings are anticipated as Altor further develops its technologies and products.

Highlights

- STAR-IMPACT™ high-throughput screening technologies enable discovery of orally-active drug candidates for autoimmune diseases
- Optimized high throughput screening assays for disease-associated MHC alleles including HLA-DR4, HLA-DR2, HLA-A2
- Impressive pre-clinical data for 1st generation lead identified from STAR-IMPACT™ screening
- IMPACT™ Fusions are MHC-based immunotherapeutic proteins for specific suppression of immune disorders
- IMPACT™ programs supported by SBIR grants from NIH
- Strong intellectual property position

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