



Novel Leukotoxin as a Therapeutic Agent (*Scott C. Kachlany, NJMS 04-38*) *Therapeutic*

Background

Current treatment for blood cancers includes the use of synthetic compounds that target the cell division process of nearly all cells of the body, not just cancerous ones. As a result, devastating side effects are all too common in patients. Bone marrow suppression, severe neurologic effects, infertility, pulmonary, and gastrointestinal effects are some of the adverse effects exhibited by the drugs. The present invention presents a novel method of treatment leukemia and lymphoma which comprises the use of a novel form of leukotoxin as a therapeutic agent.

Description of the Technology

The present technology discloses a novel leukotoxin secreted in great abundance from a unique strain of *Actinobacillus actinomycetemcomitans*. The isolated protein of the present invention is different from another leukotoxin purified from another strain of Aa in fatty acid modifications and cytotoxic properties against blood cells. The therapeutic composition proposed here has specific activity against white blood cells with no cytotoxic activity against red blood cells or other human cell types. Proof of principle experiments have been carried out *in vitro* and *in vivo* utilizing disease-specific cells and small animals. Experiments utilizing leukemia blast cells from patients are under way.

Applications

- As a new class of cancer therapeutics with a specificity for leukemia and lymphoma.

Patent Status

United States Provisional Application filed November 2005.

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