



The Novel Use of a Known Compound in Hematologic Malignancies (VA Reference No. 08-141)

Potential therapy for hematologic malignancies used alone or in combination with other chemotherapeutic agents

Technology

Treatment of hematologic malignancies

Inventor

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Key Features

- Known compound with anti-inflammatory properties
- Potential to be used either alone or in combination with other chemotherapeutic compounds
- Could be formulated as an oral, subcutaneous, intravenous, or even inhalation product

Stage of Development

Reduced to practice with in vitro demonstration in cancer cell lines

Keywords

- Cancer Therapy
- Hematologic Malignancy
 - Chemotherapy
 - Chronic Lymphocytic Leukemia
 - Blood Cancer

Patent Status

Patent application has been filed

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Technology

The Department of Veterans Affairs has identified that the novel use of a known compound can be used to treat hematologic malignancies, such as Chronic Lymphocytic Leukemia (CLL) and Non-Hodgkin's Lymphomas (NHL).

Description

This known compound was initially developed as a purine analogue with a boron containing side arm. It has been studied primarily with regards to its anti-inflammatory properties. The anti-inflammatory properties of the described compound could lead to potential therapy for hematologic malignancies alone or in combination with other chemotherapeutic agents.

The inventors have tested the effects *in vitro* in primary leukemia cells and cancer cell lines. In one example, CLL lymphocytes were obtained from patients. In multiple patients, the ability of fludarabine (a commonly used chemotherapy agent) to kill CLL lymphocytes, even at low concentrations, is enhanced dramatically when combined with the compound. In a second example, it was tested alone or in combination with dexamethasone on U-266, a multiple myeloma cell line. The results show that the compound could kill the cancer cells alone or with dexamethasone.

Competitive Advantages

Current immune modulatory drugs such as thalidomide and lenalidomide have limited efficacy for treatment of hematologic malignancies. A need exists for improving efficacy of treatment with new therapeutics that widely target aberrant immune signals.

This invention:

- Has known efficacy at blunting the immune response in various models of inflammatory disorders in the treatment of blood cancers.
- Has activity either alone or in combination with traditional chemotherapy based on preliminary in-vitro results in primary leukemia cells and cancer cell lines.
- Could potentially enhance the ability of commonly used chemotherapy agents to kill Chronic Lymphocytic Leukemia cells.

Status

The Department of Veterans Affairs is looking for a partner for further development and commercialization of this technology through a license, and the VA inventors are available to collaborate with interested companies through a Cooperative Research and Development Agreement (CRADA).