



Method for Obtaining Dill Seed Oil with Antileishmanial Activity & Improved Antioxidant Capacity

UW ID: 14-069

Inventors:
Valtcho Jeliakov

Patent Status:
Patent Pending

Description of Technology

Researchers at the University of Wyoming have developed a method to obtain dill seed essential oil with antileishmanial activity and improved antioxidant capacity. *Leishmania donovani* is a human blood parasitic protozoa that causes three different types of leishmaniasis. Leishmaniasis can affect the spleen, liver and bone marrow. Current leishmaniasis treatments can have harsh side effects in some cases. Dill seed's antileishmanial activity is newly discovered and could potentially become a new source of non-toxic leishmaniasis treatment.

The developed method of obtaining dill seed essential oil, consists of crushing dill seed samples and collecting the essential oils after ten hydro-distillation phases. After two minutes of hydro-distillation, collected oil shows antileishmanial activity against *Leishmania donovani* with an inhibition of up to 99.2%. The same oil exhibits higher antioxidant capacity than control groups.

Applications

Improved antioxidant capacity of the dill oil can be important for the food and pharmaceutical industries. High concentrations of antioxidants are known to improve health and prevent various diseases. Dill essential oil can also be used for cosmetic applications. Improved antileishmanial activity of the dill seed essential oil could potentially be used in new drug or therapy development for leishmaniasis.

Features & Benefits

- Improved antioxidant capacity
- Antileishmanial activity
- Natural ingredients

Market Opportunity

There is a growing trend of dill seed oil being used for natural cosmetics, food, and pharmaceuticals due to its high concentration of antioxidants.

Leishmaniasis causes thousands of human deaths a year. There are few treatments for leishmaniasis and some have harsh side-effects. Non-toxic treatments are needed.



Contact Us:

Research Products Center
1000 E University Ave
Laramie, WY 82071

307-766-2520
Fax: 307-766-2530
Email: WyomingInvents@uwyo.edu