



50 Years – Research for
A Life Without Cancer

Office of
Technology Transfer

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TECHNOLOGY OFFER

Title	COMPOSITIONS COMPRISING DITHIOCARBAMATE AND CYCLODEXTRIN	
P-No.	1306	
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Technology Summary	<p>Lung cancer is the leading cause of death among men and women in North America and attracts substantial pharmaceutical investment. However, in contrast to non-small cell lung cancer (NSCLC) therapies, where significant progress has been made with targeted agents and immunotherapies, the small cell lung cancer (SCLC) landscape has remained static for more than 30 years. SCLC has been fittingly referred to as “a graveyard for drug development”. However, we have shown that cyclodextrin stimulates the anti-tumor effect of combinations of disulfiram with various heavy metal salts. A clear synergistic anti-tumor effect of cyclodextrin with disulfiram/ aurothiomalate was shown in 10 different human cancer cell lines. The spectrum of anti-tumor activity of aurothiomalate/disulfiram in cyclodextrin formulation was evaluated in various cell types. Synergisms between disulfiram and aurothiomalate can be observed in cyclodextrin formulation in all tested cells. This effect differs from one cell line to the other by up to 4 orders of magnitude. Surprisingly, the tested T-cell lymphoma/leukemia, carcinoma, non-T-cell leukemia and SCLC cells are hypersensitive to aurothiomalate/disulfiram treatment in cyclodextrin formulation.</p>	

Detailed Technology Description

The present technology provides combinations and pharmaceutical compositions comprising a dithiocarbamate such as disulfiram and cyclodextrin, with a source of a heavy metal. Surprisingly, we found a synergistic potentiation of the anti-tumor effect when a dithiocarbamate/heavy metal mixture was combined with a cyclodextrin. The combination is particularly useful in the treatment of tumor diseases and other disorders.

Tags or Keywords

SCLC, combination therapy, heavy metal

Technology Benefit

Treatment of SCLC

Technology Applications

Pharmaceutical composition, Treatment

Technology page URL

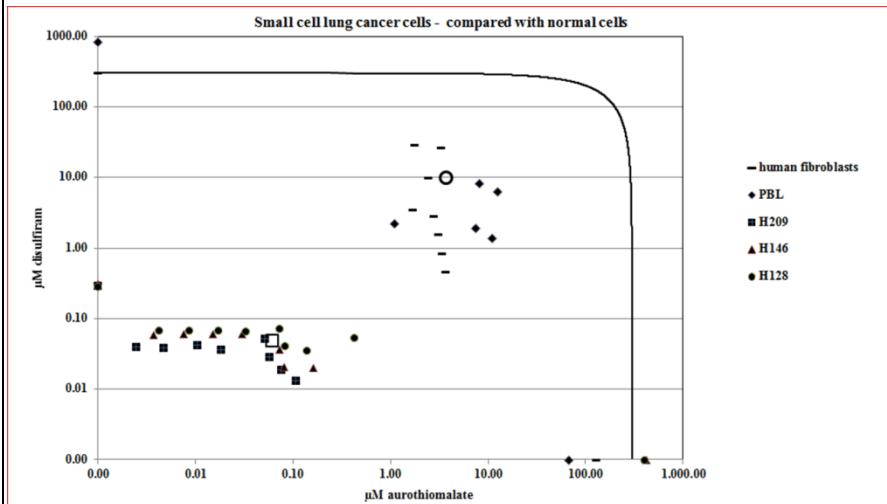
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Thumbnail images



Patents

Patent Number

PCT/EP2017/076242

Title

COMPOSITIONS COMPRISING A METAL SOURCE, DITHIOCARBAMATE AND CYCLODEXTRIN

Link

Issue Date

Publication Date

Application Date

13.10.2017

Additional Fields