

## NOVEL INHIBITORS FOR THE TREATMENT OF CHEMOTHERAPY-INDUCED NEUROPATHIC PAIN

### Technology Offer

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#### Branch

molecular biology, drug therapy, neuropathic pain

#### Patent Situation

EP patent application filed (EP 2985036; WO 2016024015)

#### Offer

license or co-development

#### Key Words

protein inhibitor, chemotherapy-induced neuropathic pain

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#### Introduction

Neuropathic pain is a chronic pain condition resulting from nerve injury. This can arise during trauma or in response to surgical or chemical factors. Neuropathic pain is a very frequent and severe side effect of chemotherapy and is often the limiting factor for achieving effective doses. In up to 80% of patients receiving specific cytotoxic drug chemotherapy, neuropathic pain manifests as burning, itching or overt pain. Treatment options are limited with uncertain efficacy. Effective therapy would represent a major improvement.

#### Invention

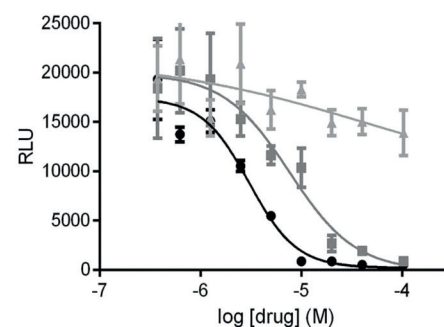
The invention is based on the inventors' own research findings. These have shown that cytotoxic drug therapy induces a specific cytochrome protein which produces large amounts of a mediator that sensitizes specific ion channels in nociceptive neurons. The inventive method involves the use of drugs which inhibit the function of the overexpressed protein and thus reduce the chemotherapy-induced sensitisation of the neuronal ion channels. This action opens up a new approach to therapy of neuropathic pain and treatment options are limited.

#### Market Potential

The neuropathic pain market is expected to grow to \$3.6 billion by 2020. The invention is expected to find application in the treatment of chemotherapy-induced neuropathic pain which is a frequently occurring side-effect in cancer patients.

#### Development Status

The method has been demonstrated in the laboratory and is undergoing validation in animal experiments. Selective inhibitors of the specific cytochrome protein were discovered by medium throughput screening and are active in paclitaxel-induced neuropathy in animals.



Dose-inhibition curves for three different inhibitors of the specific protein in a luminescence screening assay.

#### Reference

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