

Innovative Therapy for Alleviating Cancer Treatment Complications

Combination therapy for cancer treatment, integrating chemotherapeutic drugs with a kinase inhibitor to mitigate or prevent CIPN.

Case ID:

ID2023-013 (SJSU) - S23-089 (Stanford)

IP Position:

Provisional Patent

Development Status:

TRL 5: Basic technological components are integrated to be tested in relevant environment.

Opportunity

Partners sought for development and testing.

Category(s):

Oncology, Neurology, Cancer, Pharmacology, Neuroprotective Agents, Drug Development

Keywords:

Chemotherapy, Cancer Treatment, Peripheral Neuropathy, Combination Therapy, Nerve Damage, Chemotherapeutic Drugs, Kinase Inhibitor

Date Released:

April 08, 2024

Revision No:

2.0

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Technology Overview

- The combination treatment presents a promising approach to address chemotherapy-induced peripheral neuropathy (CIPN), a significant concern in cancer treatment. By administering both a chemotherapeutic drug and a kinase inhibitor, the therapy aims to mitigate or prevent the occurrence of neurotoxicity associated with chemotherapy, thereby improving patients' quality of life.
- The combination therapy seeks to maintain the anti-cancer efficacy of the chemotherapeutic drug while reducing the incidence and severity of CIPN, potentially allowing for more effective cancer treatment with fewer adverse effects on neurological function.
- This invention highlights the versatility of the approach, allowing for the incorporation of various chemotherapeutic drugs targeting different pathways, further expanding its applicability across different cancer types and patient populations.

Key Features & Benefits

- **Combination therapy:** Integrates the administration of a chemotherapeutic drug with a kinase inhibitor, offering a synergistic approach to combat CIPN.
- **Neuroprotective mechanism:** Targets kinase pathway implicated in the development of CIPN, aiming to mitigate or prevent neurological side effects associated with chemotherapy, thus enhancing patients' quality of life during and after cancer treatment.
- **Maintenance of anti-cancer efficacy:** Seeks to preserve the anti-cancer effectiveness of the chemotherapeutic drug while reducing the incidence and severity of CIPN, allowing for more effective cancer treatment without compromising therapeutic outcomes.

Potential Applications

- **Cancer treatment enhancement:** Offers a potential means to improve the efficacy of cancer treatment by reducing the incidence of CIPN, thereby allowing for the maintenance of higher doses or more aggressive treatment regimens.
- **Expanded treatment options:** Opens up possibilities for utilizing a broader range of chemotherapeutic drugs, including those known to induce peripheral neuropathy, by concurrently administering them with a kinase inhibitor, potentially expanding treatment options for various types of cancer.
- **Potential cost savings:** Decreased CIPN-related complications and healthcare expenses, benefiting both patients and healthcare systems.
- Improved patient quality of life during and after cancer therapy.

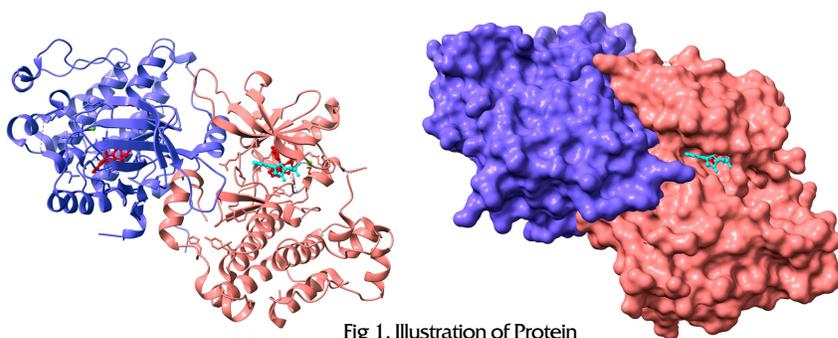


Fig 1. Illustration of Protein Kinase Inhibitor