CNK-485 for the Treatment of Breast Cancer

Overview

Drug Name	CNK-485
Description	CNK-485, a humanized monoclonal antibody targeting HER2 covalently linked to monomethyl auristatin E (MMAE), is in early clinical development for the treatment of breast cancer.
Target	HER2；Tubulin
Drug Modality	Antibody-Drug Conjugates
Indication	Breast Cancer
Product Category	Antimitotic Drugs
Mechanism of Action	Signal Transduction Modulators
Status	Phase I
Patent	Granted

Seeking Global Cooperation

Protheragen Inc. is actively seeking partnership for CNK-485. Potential collaboration can be strategic alliance, licensing, or marketing agreement.
We look forward to hearing from you.

Target

erb-b2 Receptor Tyrosine Kinase 2 (ERBB2; HER2)

This gene encodes a member of the epidermal growth factor (EGF) receptor family of receptor tyrosine kinases. This protein has no ligand binding domain of its own and therefore cannot bind growth factors. However, it does bind tightly to other ligand-bound EGF receptor family members to form a heterodimer, stabilizing ligand binding and enhancing kinase-mediated activation of downstream signalling pathways, such

as those involving mitogen-activated protein kinase and phosphatidylinositol-4 kinase. Overexpression of this gene has been reported in numerous cancers, including breast and ovarian tumors. Alternative splicing results in several additional transcript variants, some encoding different isoforms and others that have not been fully characterized.

Tubulin

This protein may form heterodimers with alpha-tubulins, constituting the main structural subunit of microtubules.

Indication

Breast Cancer

Breast cancer is a type of cancer that specifically affects cells in the breast tissue. About 80% of breast cancers originate in the mammary ducts, while the remaining 20% originate in the lobules.

According to the World Health Organization, breast cancer is the most commonly diagnosed cancer in females worldwide, and the third most common cancer overall. In 2017, more than 1.96 million new cases of breast cancer were diagnosed worldwide. Based on incidence data from the Globocan 2008 database extrapolated to the projected world population in 2030, the World Economic Forum estimates that nearly 2.2 million new cases of breast cancer will be diagnosed worldwide in 2030.

According to the Global Burden of Disease (GBD) 2017 study, breast cancer claimed the lives of 601,000 women as well as 11,000 men worldwide in 2017, and incurred 17.7 million disability-adjusted life years (DALYs) in both sexes worldwide. Moreover, the breast cancer death toll continues to increase. However, in developed countries, breast cancer mortality rates have declined significantly in recent decades, largely due to the introduction of a multidisciplinary approach to management that involves diagnostic imaging, surgical resection, pathological analysis of resected lymph nodes and/or breast tissue and a treatment strategy based

on the identification of the individual molecular subtype that may include surgery, radiation therapy, and/or systemic hormonal, biologic or chemotherapy.

Although the rate of successful treatments for localized disease is currently quite high, with five-year survival rates more than 98% in countries such as the U.S., the natural course of the disease is still fatal. In spite of a high treatment success rate, breast cancer remains the number one cause of cancer death in women, and the fifth most common cause of cancer death in both sexes combined.

Mechanism of Action

Signal Transduction Modulators

Molecular Mechanism	Tubulin Polymerization Inhibitors Drugs Targeting HER2 (erbB2)

Status

The Status of CNK-485

The international patent applications under the PCT have been granted.

	Discovery/Optimization	Preclinical	Clinical
CNK-485			

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