UNIVERSITY OF MINNESOTA
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Compounds that lead to degradation of cancer relevant proteins

Compounds target and degrade kinases, specifically Aurora A and CDK4/6, for effective cancer treatment.

IP Status: US Patent Pending; Application No.: 17/615,569

Applications

- Cancer Treatment
- Research Tool

Key Benefits & Differentiators

- **Targeted Therapy:** Specifically degrades proteins involved in cancer cell proliferation.
- **Overcomes Resistance:** Effective against cancers resistant to current treatments.
- **Versatile Applications:** Potentially effective in treating various cancers.

Technology Overview

Cancer, particularly neuroblastoma and ovarian cancer, often involves the deregulation of key proteins like N-Myc and CDK4/6. N-Myc amplification is linked to poor prognosis in neuroblastoma and other cancers. Traditional treatments often fail due to resistance and toxicity, necessitating new therapeutic strategies.

Researchers at the University of Minnesota have developed compounds designed to degrade kinases, specifically Aurora A and CDK4/6. These compounds, represented by formulas (I) and (II), include an Aurora A ligand or a CDK4/6 ligand linked to an E3 ligase ligand. The mechanism involves inducing a conformational change in Aurora A, leading to the degradation of the N-Myc protein. Similarly, these compounds target and degrade cyclin D-CDK4/6 complexes, which are crucial for cell cycle progression in cancer cells.

Phase of Development

TRL: 3-4
These compounds have shown to be effective against ovarian and breast cancer cell lines.

Desired Partnerships

This technology is now available for:

- License
- Sponsored research
- Co-development

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Researchers

- **Daniel A. Harki, PhD** Northrop Professor and Margaret Harvey Schering Land Grant Chair for Cancer Research

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