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Dual Kinase/demethylase as Inhibitors of Proliferative Diseases

First-in-class dual kinase/demethylase inhibitors show promise for developing the next generation of treatments for cancer and other diseases with reduced side effects on noncancerous cells.

Kinases and proteins play an important role in the body at the cellular level, helping to regulate cellular growth, metabolism, and proliferation. It is for this reason that cancer drug developers' research focuses on methods of kinase inhibition as a means to stop or reverse cancer cell proliferation. An inhibitor is simply a molecule that binds to the kinase protein, decreasing or stopping the activity of the protein. Unfortunately, there is evidence of resistances to drugs that target only kinases or histones. Research on new molecules can potentially lead to novel anticancer drugs.

Researchers at Purdue University have developed compounds as first-in-class dual kinase/demethylase inhibitors with the potential to inhibit cancer cell proliferation. In addition to cancer, these inhibitors are useful in the treatment of other diseases such as inflammation, viral and bacterial infections, and neurological and immunological disorders. In various tests, this inhibitor affected cancer cells without harming noncancerous cells, which helps prevent drug rejection or other issues typically seen in cancer treatment. As research continues, these inhibitors show promise as the next generation of cancer treatment.

Advantages:

-First-in-class inhibitors

-Promising early tests

-Does not affect noncancerous cells

Potential Applications:

-Drug development

-Pharmaceutical industry

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Category

Pharmaceuticals/Small Molecule Therapeutics

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-Treatment of cancer and other diseases

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Intellectual Property:

Provisional-Patent, 2017-03-29, United States | NATL-Patent, 2018-03-29, Europe | NATL-Patent, 2018-03-29, China | NATL-Patent, 2018-03-29, India | NATL-Patent, 2018-03-29, Canada | PCT-Patent, 2018-03-29, WO | NATL-Patent, 2018-03-29, Japan | NATL-Patent, 2019-09-27, United States | DIV-Patent, 2021-04-29, United States | DIV-Patent, 2022-02-25, Japan | DIV-Patent, 2022-09-21, Japan | DIV-Patent, 2023-06-01, Europe | DIV-Patent, 2023-12-21, United States | DIV-Patent, N/A, China | EP-Patent, N/A, United Kingdom | EP-Patent, N/A, Germany

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