

Makaluvamine Analogues For Development As Anticancer Agents

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OTHER INFORMATION

KEYWORDS

makulavamine, natural products

chemistry, marine derived drugs,

natural product analogs

CATEGORIZED AS

- **Medical**
 - Disease: Cancer
 - Therapeutics

RELATED CASES

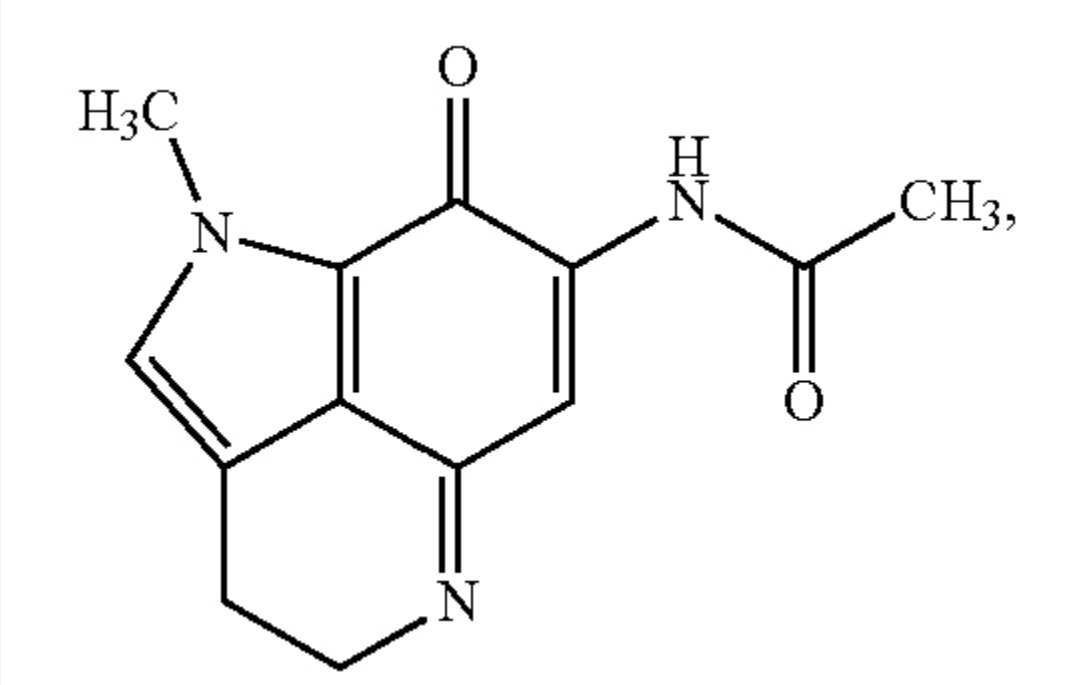
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BACKGROUND

Marine sponges and microorganisms are the source of many promising bioactive products for use in the treatment of cancer. Multicompound libraries can be readily generated from these sources for comprehensive bioactivity and biosynthetic investigations. Prior studies into these organisms/communities involved examination of *Zyzzya* sponge metabolites and corresponding bacterial communities from this genus. One particularly potent compound was a makaluvamine extracted from a *Zyzzya fulginosa* sponge from Papua New Guinea was highly active on PANC-1 cells. Additional studies show that the key structure of malakuvamine and other related compounds is a pyrrolo[4,3,2-*de*]quinoline motif now seen in 100 similar natural products.

TECHNOLOGY DESCRIPTION

This invention, made in collaboration with researchers at the Henry Ford Health System describes Pyrrolo[4,3,2-*de*]quinolines derived from malakuvamine and highly active against PANC-1 cells



One particular analog, termed makulavamine J had an IC50 of 54 nM in PANC-1 cells and 120 nm in OVCAR-5 cells, while another analog, 15-O-acetyl makaluvamine J (structure above), had an IC50 of 81 nM in PANC-1 cells and an IC50 of 8.6 nM in OVCAR-5 cells.

APPLICATIONS

Potential lead in cancer therapy

ADVANTAGES

Derived from a natural product

INTELLECTUAL PROPERTY INFORMATION

Country	Type	Number	Dated	Case
United States Of America	Issued Patent	11,020,488	06/01/2021	2017-263
Patent Cooperation Treaty	Published Application	2018/170019	09/20/2018	2017-263

RELATED MATERIALS

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