

Proteasome Inhibitors Used to Treat Cancer

Challenge

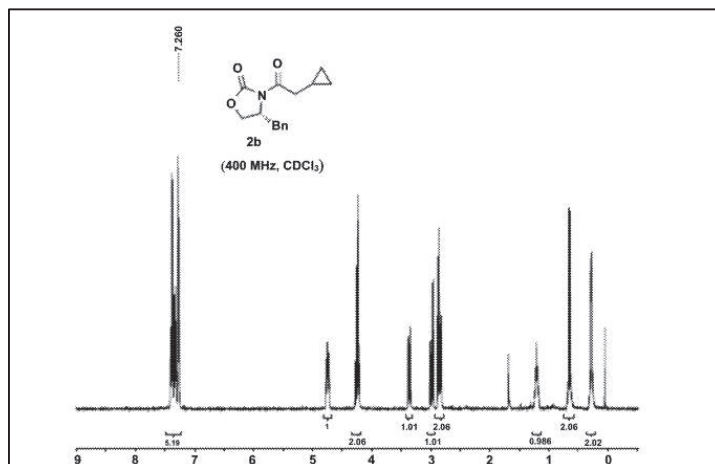
According to the World Health Organization, in 2020, cancer was the leading cause of death corresponding to nearly 10 million or one (1) in six (6) deaths. Cancer can occur in different parts of the body and involves abnormal, aggressive and the spread of cell growth. It is known that cancer in one scenario where too little apoptosis occurred resulted in malignant cells that did not die.

Solution

Proteasomes are cellular complexes that break down proteins and are critical to the survival of cancer cells. Our researchers developed compounds that inhibit proteasomes. Proteasome inhibitors prevent degradation of proteins that are critical for cell viability; this leads to programmed cell death. As a result, proteasome inhibitors can be used to inhibit the proliferation of cancer cells.

Benefits and Features

- The compounds inhibit proteasomes to halt cancer cell division
- Intended to treat multiple myeloma and mantle cell lymphoma.
- Displays superior efficacy, clinically proven and used as proteasome inhibitor Carfilzomib.



Market Potential / Applications

This invention can be licensed to large or private pharmaceutical companies to develop improved myeloma and lymphoma treatments.

Developments and Licensing Status

Status: Available

Commercial sponsor sought? Yes

Patent Status

US patent Issued US 11,396,497 B2

PCT/US2019/030386

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Keywords: proteasome, inhibitors, apoptosis, cancer

Relevant Paper:

Tello-Aburto, Rodolfo et al. "Total synthesis and absolute stereochemistry of the proteasome inhibitors cystargolides A and B". Organic & biomolecular chemistry vol.13,40(2015):10127-30.doi:10.1039/ c50b01821h.

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