

Proteasome inhibitors/study

Fall 2008

Some of the underlying mechanisms of bortezomib's lethal effect on cancer cells were summarized in a publication^[1] from the fall of 2008. This publication still reiterates the initial dogma (adopted in many hundreds of articles) that one of the key mechanisms responsible for bortezomib's effect on multiple myeloma cells, is the inhibition of NF- κ B, despite already known data from various studies, which were summarized in a comprehensive article by the authors of this textbook in 2008^[2].

July 2009

The groundbreaking work was then published in the journal Blood (<http://www.bloodjournal.org/>) in July 2009 by Professor Anderson's team at the Dana-Farber Cancer Institute. The authors demonstrated that bortezomib not only does not inhibit NF- κ B in multiple myeloma cells taken from patients, but actually activates this transcription factor, thereby reducing its own lethal effect on these cells (which is enhanced by the addition of a specific NF- κ B inhibitor)^[3]. So in 2009, the correct answer to the question of how bortezomib kills cancer cells in the human body became even more mysterious. A limitation may also be that the vast majority of published research on this topic takes place in tumor lines in vitro and thus does not sufficiently reflect the reality of the processes in the body of treated patients.

Links

Related Articles

- Degradative system of cells
- Ubiquitination
- Deubiquitination
- Proteasome inhibitors
- History of the discovery of proteasome inhibitor
- 2nd generation proteasome inhibitors
- Antabuse

Source

-

References

- 1.
- 2.
- 3.