

FULL TEXT LINKS

[BenthamScience](#)
Full-Text ArticleReview [Anticancer Agents Med Chem.](#) 2018;18(12):1650-1655.

doi: 10.2174/1871520618666180105161136.

Amygdalin from Apricot Kernels Induces Apoptosis and Causes Cell Cycle Arrest in Cancer Cells: An Updated Review

Mohammad Saleem ¹, Jawaria Asif ², Muhammad Asif ², Uzma Saleem ²

Affiliations

Affiliations

- 1 Punjab University College of Pharmacy, University of the Punjab, Lahore, Pakistan.
- 2 Faculty of Pharmaceutical Sciences, Government College University, Faisalabad, Pakistan.

PMID: 29308747 DOI: [10.2174/1871520618666180105161136](https://doi.org/10.2174/1871520618666180105161136)

Abstract

Background: Amygdalin is a cyanogenic glycoside which is described as a naturally occurring anticancer agent. Current review highlights apoptosis-inducing attributes of amygdalin towards different cancers and its potential application as an anti-cancer agent in cancer therapy.

Method: Data about amygdalin was retrieved from all major scientific databases i.e., PubMed, ScienceDirect, Google Scholar, Scopus and Medline by using combination of keywords like amygdalin, apoptosis, laetrile, vitamin B- 17, pro-apoptotic proteins, anti-apoptotic proteins, hydrogen cyanide, mechanism of action of amygdalin and amygdalin therapy on humans. However, no specific time frame was followed for collection of data.

Results: Data collected from already published articles revealed that **apoptosis is a central process activated by amygdalin in cancer cells.** It is suggested to stimulate apoptotic process by upregulating expression of Bax (proapoptotic protein) and caspase-3 and downregulating expression of Bcl-2 (anti-apoptotic protein). It also promotes arrest of cell cycle in G0/G1 phase and decrease number of cells entering S and G2/M phases. Thus, it is proposed to enhance deceleration of cell cycle by blocking cell proliferation and growth.

Conclusion: The current review epitomizes published information and provides complete interpretations about all known anti-cancer mechanisms of amygdalin, possible role of naturally occurring amygdalin in fight against cancer and **mistaken belief about cyanide toxicity causing potential of amygdalin.** However, well-planned clinical trials are still needed to be conducted to prove effectiveness of this substance in vivo and to get approval for human use.

Keywords: Amygdalin; Bax; Bcl-2; apoptosis; cancer; caspase-3..

Copyright© Bentham Science Publishers; For any queries, please email at epub@benthamscience.net.

Related information

[PubChem Compound \(MeSH Keyword\)](#)

LinkOut – more resources

Full Text Sources

[Bentham Science Publishers Ltd.](#)

[Ingenta plc](#)

Other Literature Sources

[scite Smart Citations](#)

Medical

[MedlinePlus Health Information](#)

Research Materials

[NCI CPTC Antibody Characterization Program](#)