# References on Bitter Melon (*Momordica charantia*) from Part 3 of Fighting Cancer with Plants from the Rainforest By Leslie Taylor

The published research referenced in the book which is shown below will include the initials **HS**, **IVT**, **IVA**, **REV**, **INS**, **REV** and **NEW**. HS refers to research conducted in humans; IVT refers to *in vitro* research conducted inside of test tubes; IVA refers to *in vivo* research conducted in animals; REV refers to a review article that evaluated and summarizes multiple studies on the subject; INS refers to *in silico* research (newer computer modeling including molecular docking studies) and NEW refers new biological research methods which determine genes and signaling pathways, and molecular pathways of actions which were developed during and after the Human Genome Project discussed in chapter 4.

This research below was last updated in July 2025. To view research published after that time, follow these links to the National Institute of Health's National Library of Medicine on **Bitter Melon**.

# **Cancer Research on Bitter Melon**

## **Review Articles:**

Deligiannidou, G., et al. "Nutraceutical potential of bitter melon (*Momordica charantia*) on cancer treatment: An overview of in *vitro* and animal studies." *Curr. Issues Mol. Biol.* 2025 Jun; 47(6): 425. (REV) Amini, M., et al. "The effects of bitter melon (*Mormordica charantia*) on lipid profile: a systematic review and meta-analysis of randomized controlled trials." *Phytother. Res.* 2024 Dec; 38(12): 5949-5961. (REV, HS)

Zou, Y., et al. "The effects of bitter melon (*Momordica charantia*) on anthropometric indices in adults: A systematic review and meta-analysis of randomized controlled trials." *Prostaglandins Other Lipid Mediat*. 2024 Oct; 174: 106877. (**REV, HS**)

Li, Y., et al. "Potential of cucurbitacin as an anticancer drug." *Biomed. Pharmacother.* 2023 Dec; 168: 115707. (**REV**)

Psilopatis, I., et al. "The role of bitter melon in breast and gynecological cancer prevention and therapy." *Int. J. Mol. Sci.* 2023 May; 24(10): 8918. [Free Article] (REV)

Bora, A., et al. "New insights into the bioactive polysaccharides, proteins, and triterpenoids isolated from bitter melon (*Momordica charantia*) and their relevance for nutraceutical and food application: A review." *Int. J. Biol. Macromol.* 2023 Mar; 231: 123173. (**REV**)

Wang, H., et al. "Recent advances in the development of bitter gourd seed oil: from chemical composition to potential applications." *Crit. Rev. Food Sci. Nutr.* 2023; 63(31): 10678-10690. (**REV**) Gupta, N., et al. "Exploring the anticancer potentials of polyphenols: A comprehensive review of patents in the last five years." *Recent Pat. Anticancer Drug Discov.* 2023; 18(1): 3-10. (**REV**)

Sur, S., et al. "Bitter Melon (*Momordica charantia*), a nutraceutical approach for cancer prevention and therapy." *Cancers*. (Basel). 2020 Jul; 12(8): 2064. [Free Article] (REV)

Fang, E., et al. "Emerging antitumor activities of the bitter melon (*Momordica charantia*)." *Curr. Protein Pept. Sci.* 2019; 20(3): 296-301. [Free Article]

Qamar, H., et al. "Current status and future perspective for research on medicinal plants with anticancerous activity and minimum cytotoxic value." *Curr. Drug Targets*. 2019; 20(12): 1227-1243. (**REV**)

Farooqi, A., et al. "Bitter gourd (*Momordica charantia*) as a rich source of bioactive components to combat cancer naturally: Are we on the right track to fully unlock its potential as inhibitor of deregulated signaling pathways?" *Food Chem. Toxicol.* 2018 Sep; 119: 98-105. (**REV**)

Wong, J., et al. "Apoptosis and anti-cancer drug discovery: The power of medicinal fungi and plants." *Curr. Med. Chem.* 2018; 25(40): 5613-5630. (**REV**)

Dandawate, P., et al. "Bitter melon: A panacea for inflammation and cancer." *Chin. J. Nat. Med.* 2016 Feb; 14(2): 81-100. (**REV**)

Raina, K., et al. "Promise of bitter melon (*Momordica charantia*) bioactives in cancer prevention and therapy." *Semin Cancer Biol.* 2016 Oct; 40-41: 116-129. [Free Article] (REV)

Dandawate, P., et al. "Bitter melon: a panacea for inflammation and cancer." *Chin. J. Nat. Med.* 2016 Feb; 14(2): 81-100. [Free Article] (REV)

Fang, E., et al. "Bitter gourd (*Momordica charantia*) is a cornucopia of health: A review of its credited antidiabetic, anti-HIV, and antitumor properties." *Curr. Mol. Med.* 2011; 11: 417–436. (**REV**)

## **Test Tube Research on Multiple Cancer Cell Lines:**

Psilopatis, I., et al. "The role of bitter melon in breast and gynecological cancer prevention and therapy." *Int. J. Mol. Sci.* 2023 May; 24(10): 8918. (IVT)

Huang, H., et al. "Kaguacidine A: a novel spirohydantoin-containing cucurbitane glycoside from vines of *Momordica charantia* L." *Nat. Prod. Res.* 2024 Jul; 38(13): 2179-2186. (IVT)

Liaw, C., et al. "Cucurbitane-type triterpenoids from the vines of *Momordica charantia* and their anti-inflammatory, cytotoxic, and antidiabetic activity." *Phytochemistry*. 2022 Mar; 195: 113026. (IVT) Gunes, H., et al. "Anticancer effect of the fruit and seed extracts of *Momordica charantia* L. (Cucurbitaceae) on human cancer cell lines." *Trop. J. Pharm. Res.* 2019 Oct; 18(10): 2058. (IVT) da Silva, T., et al. "Cytotoxic potential of selected medicinal plants in northeast Brazil." *BMC Complement. Altern. Med.* 2016 Jul; 16: 199. (IVT)

Liaw, C., et al. "5β,19-epoxycucurbitane triterpenoids from *Momordica charantia* and their anti-inflammatory and cytotoxic activity." *Planta Med.* 2015 Jan; 81(1): 62-70. (**IVT**)

Zhao, G., et al. "Cucurbitane-type triterpenoids from the stems and leaves of *Momordica charantia*." *Fitoterapia*. 2014 Jun; 95: 75-82. (**IVT**)

Manoharan, G., et al. "Effect of  $\alpha$ ,  $\beta$  momorcharin on viability, caspase activity, cytochrome c release and on cytosolic calcium levels in different cancer cell lines." *Mol. Cell. Biochem.* 2014 Mar; 388(1-2): 233-40. (IVT)

Hsiao, P., et al. "Antiproliferative and hypoglycemic cucurbitane-type glycosides from the fruits of *Momordica charantia*." *J. Agric. Food Chem.* 2013 Mar; 61(12): 2979-86. (IVT)

Li, C., et al. "Momordica charantia extract induces apoptosis in human cancer cells through caspase- and mitochondria-dependent pathways." Evid Based Complement Alternat Med. 2012; 2012: 261971. (IVT) Wang, X., et al. "Structures of new triterpenoids and cytotoxicity activities of the isolated major compounds from the fruit of Momordica charantia L." J. Agric. Food Chem. 2012 Apr; 60(15): 3927-33. (IVT)

Zhang, J., et al. "Cucurbitane triterpenoids from the leaves of *Momordica charantia*, and their cancer chemopreventive effects and cytotoxicities." *Chem. Biodivers*. 2012 Feb; 9(2): 428-40. (**IVT, NEW**) Akihisa, T., et al. "Cucurbitane-type triterpenoids from the fruits of *Momordica charantia* and their cancer chemopreventive effects." *J. Nat. Prod.* 2007; 70(8): 1233-9. (**IVT**)

# Adrenocortical carcinoma:

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#### **Bladder Cancer:**

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Shi, Z., et al. "Antitumor mechanism of MAP30 in bladder cancer T24 cells, and its potential toxic effects in mice." *Cell. Mol. Biol.* 2020 Apr; 66(1): 42-48. (IVA, IVT, NEW)

## **Breast Cancer:**

Psilopatis, I., et al. "The role of bitter melon in breast and gynecological cancer prevention and therapy." *Int. J. Mol. Sci.* 2023 May; 24(10): 8918. (IVT)

Feng, T., et al. "Anticancer activity of bitter melon-derived vesicles extract against breast cancer." *Cells*. 2023 Mar; 12(6): 824. (IVA, IVT, NEW)

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Rossmann, M., et al. "Eleostearic acid inhibits breast cancer proliferation by means of an oxidation-dependent mechanism." *Cancer Prev. Res.* 2009; 2(10): 879-86. (**IVT, NEW**)

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#### **Brain Cancer:**

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Tabata, K., et al. "Kuguaglycoside C, a constituent of *Momordica charantia*, induces caspase-independent cell death of neuroblastoma cells." *Cancer Sci.* 2012 Dec; 103(12): 2153-8. (IVT, NEW)

#### **Cervical Cancer:**

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#### **Colon and Colorectal Cancer:**

Dia, V., et al. "BG-4, a novel anticancer peptide from bitter gourd (*Momordica charantia*), promotes apoptosis in human colon cancer cells." *Sci Rep.* 2016 Sep; 6: 33532. (**IVT**)

Kwatra, D., et al. "Bitter melon extracts enhance the activity of chemotherapeutic agents through the modulation of multiple drug resistance." *J. Pharm. Sci.* 2013 Dec; 102(12): 4444-54. (IVT)

Chipps, E., et al. "Cytotoxicity analysis of active components in bitter melon (*Momordica charantia*) seed extracts using human embryonic kidney and colon tumor cells." *Nat Prod Commun*. 2012 Sep; 7(9): 1203-8. (**IVT, NEW**)

Fan, J., et al. "Effects of recombinant MAP30 on cell proliferation and apoptosis of human colorectal carcinoma LoVo cells." *Mol. Biotechnol.* 2008 May; 39(1): 79-86. (IVT)

Khan, S., et al. "Bitter gourd (*Momordica charantia*): a potential mechanism in anti-carcinogenesis of colon." *World J. Gastroenterol.* 2007 Mar; 13(11): 1761-2. (**IVA, IVT**)

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Prostaglandins Leukot. Essent. Fatty Acids. 2005 Aug; 73(2): 113-9. (IVA, IVT, NEW)

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Sharma, Y., et al. "Antiproliferative efficacy of the antioxidant bioactive compounds of defatted seeds of *Azadirachta indica* and *Momordica charantia* against the regulatory function of tumor suppressor gene inducing oral carcinoma." *J. Biomol. Struct. Dyn.* 2023 Jul; 41(11): 5246-5260. (IVT, INS, NEW)

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#### Leukemia:

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#### **Ovarian Cancer:**

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# **Skin Cancer:**

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# **New Drug Development:**

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