

Antimicrobial & Antiparasitic Actions of [Bitter Melon \(*Momordica charantia*\)](#)

Research reports that bitter melon fruit and leaves have antiviral, antibacterial, antifungal, anti-candidal, and antiparasitic actions against numerous types of microbes.

Sawisit, A., et al. "Comparative antibacterial activities of extracts from two varieties of bitter gourd (*Momordica charantia*)."
Pak. J. Biol. Sci. 2025 Mar; 28(4): 246-252.

Ahmadi Ghezeldasht, S., et al. "*Momordica charantia* phytoconstituents can inhibit human T-lymphotropic virus type-1 (HTLV-1) infectivity *in vitro* and *in vivo*."
J. Neurovirol. 2025 Feb; 31(1): 24-34.

Vista, F., et al. "Antibacterial activity of crude *Momordica charantia*, *Cassia alata*, and *Allium sativum* methanolic extracts on *Leptospira interrogans* serovar Manilae."
Acta Med. Philipp. 2024 Dec; 58(22): 29-34.

Jayaraj, P., et al. "Assessment of the antimicrobial effect of *Momordica charantia* (bitter gourd oil) on periodontal pathogens: An *in vitro* study."
Cureus. 2024 Dec; 16(12): e75209.

Alves, A., et al. "The effect of *Momordica charantia* extract on sheep infected with *Haemonchus contortus*."
Res. Vet. Sci. 2024 Nov; 180: 105401.

Marques, M., et al. "Bioassay-guided isolation of leishmanicidal cucurbitacins from *Momordica charantia*."
Front. Pharmacol. 2024 Jul; 15: 1390715.

Aldholmi, M., et al. "Anti-infective activity of *Momordica charantia* extract with molecular docking of its triterpenoid glycosides."
Antibiotics (Basel). 2024 Jun; 13(6): 544.

Peeran, S., et al. "*In-vitro* evaluation of wild bitter melon (*Momordica charantia*) extracts against periodontopathic bacteria (*Prevotella intermedia* and *Porphyromonas gingivalis*) using antibacterial, anti-inflammatory and molecular docking analysis."
J. Pharm. Bioallied Sci. 2024 Apr; 16(Suppl 2): S1554-S1564.

Huq, A., et al. "Selected phytochemicals of *Momordica charantia* L. as potential anti-DENV-2 through the docking, DFT and molecular dynamic simulation."
J. Biomol. Struct. Dyn. 2024 Nov; 42(18): 9325-9336.

Huang, W., et al. "Momordica anti-HIV protein MAP30 abrogates the Epstein-Barr virus nuclear antigen 1 dependent functions in host cells."
Heliyon. 2023 Oct; 9(11): e21486.

Watts, N., et al. "The ribosome-inactivating proteins MAP30 and Momordin inhibit SARS-CoV-2."
PLoS One. 2023 Jun; 18(6): e0286370.

Sheikh, H., et al. "Promising roles of *Zingiber officinale* roscoe, *Curcuma longa* L., and *Momordica charantia* L. as immunity modulators against COVID-19: A bibliometric analysis."
J. Agric. Food Res. 2023 Dec; 14: 100680.

Adedayo, A., et al. "In-silico studies of *Momordica charantia* extracts as potential candidates against SARS-CoV-2 targeting human main protease enzyme (Mpro)."
Inform. Med. Unlocked. 2023; 38: 101216.

Yang, T., et al. "Alpha-momorcharin preserves catalase activity to inhibit viral infection by disrupting the 2b-CAT interaction in *Solanum lycopersicum*." *Mol. Plant. Pathol.* 2023 Feb; 24(2): 107-122.

Tchetan, E., et al. "Anthelmintic activity, cytotoxicity, and phytochemical screening of plants used to treat digestive parasitosis of small ruminants in Benin (West Africa)." *Animals* (Basel). 2022 Oct; 12(19): 2718.

Singh, V., et al. "In vitro antimicrobial activity of *Cucumis* L. and *Momordica* L. against human pathogens." *Dokl. Biol. Sci.* 2022 Jun; 504(1): 85-93.

Evary, Y., et al. "Docking of phytochemical compounds of *Momordica charantia* as potential inhibitors against SARS-CoV-2." *Infect. Disord. Drug Targets.* 2022; 22(3): e130122200221.

Singh, S., et al. "Targeting novel coronavirus SARS-CoV-2 spike protein with phytoconstituents of *Momordica charantia*." *J. Ovarian Res.* 2021 Sep; 14(1): 126.

Ekawardhani, S., et al. "Anthelmintic potential of medicinal plants against *Ancylostoma caninum*." *Vet. Med. Int.* 2021 Nov; 2021: 3879099.

Owusu, E., et al. "Antimicrobial activity of selected medicinal plants from a sub-Saharan African country against bacterial pathogens from post-operative wound infections." *Med. Sci* (Basel). 2021 Mar; 9(2): 23.

Offor, U., et al. "Nephrotoxicity and highly active antiretroviral therapy: Mitigating action of *Momordica charantia*." *Toxicol. Rep.* 2018 Sep; 5: 1153-1160.

Sun, W., et al. "Chemosynthesis and characterization of site-specific N-terminally PEGylated Alpha-momorcharin as a potential agent." *Sci. Rep.* 2018 Dec; 8(1): 17729.

Hussain, F., et al. "Study of selected therapeutic potentials of *Momordica charantia* fruit." *J. Biol. Regul. Homeost. Agents.* 2018 Jul-Aug; 32(4): 859-862.

Yang, T., et al. "Alpha-momorcharin enhances tobacco mosaic virus resistance in tobacco(NN) by manipulating jasmonic acid-salicylic acid crosstalk." *J. Plant Physiol.* 2018 Apr; 223: 116-126.

Qiao, Y., et al. "Dataset on preparation of the phosphorylated counterparts of a *Momordica charantia* protein for studying antifungal activities against susceptible dose-dependent *C. albicans* to antimycotics." *Data Brief.* 2017 Sep; 15: 370-375.

Wang, S., et al. "Antifungal activity of *Momordica charantia* seed extracts toward the pathogenic fungus *Fusarium solani* L." *J. Food Drug Anal.* 2016 Oct; 24(4): 881-887.

Qiao, Y., et al. "Development of a phosphorylated *Momordica charantia* protein system for inhibiting susceptible dose-dependent *C. albicans* to available antimycotics: An allosteric regulation of protein." *Eur. J. Pharm. Sci.* 2017 Nov 15; 109: 262-268.

Chang, C., et al. "Novel purification method and antibiotic activity of recombinant *Momordica charantia* MAP30." *Biotech.* 2017 May; 7(1): 3.

Pereira, C., et al. "Anti-helminthic activity of *Momordica charantia* L. against *Fasciola hepatica* eggs after twelve days of incubation *in vitro*." *Vet. Parasitol.* 2016 Sep 15; 228: 160-166.

Moghadam, A., et al. "Expression of a recombinant anti-HIV and anti-tumor protein, MAP30, in

Nicotiana tobacum hairy roots: a pH-stable and thermophilic antimicrobial protein." *PLoS One*. 2016 Jul; 11(7): e0159653.

Liu, H., et al. "The cytotoxicology of momordicins I and II on *Spodoptera litura* cultured cell line SL-1." *Pestic. Biochem. Physiol.* 2015 Jul; 122: 110-8.

Lucena Filho, J., et al. "Antimicrobial potential of *Momordica charantia* L. against multiresistant standard species and clinical isolates." *J. Contemp. Dent. Pract.* 2015 Nov; 16(11): 854-8.

Saengsai, J., et al. "Antibacterial and antiproliferative activities of plumericin, an iridoid isolated from *Momordica charantia* vine." *Evid. Based Complement. Alternat. Med.* 2015; 2015: 823178.

Yaldız, G., et al. "Antimicrobial activity and agricultural properties of bitter melon (*Momordica charantia* L.) grown in northern parts of Turkey: a case study for adaptation." *Nat. Prod. Res.* 2015; 29(6): 543-5.

Rakholiya, K., et al. "Comparative study of hydroalcoholic extracts of *Momordica charantia* L. against foodborne pathogens." *Indian J. Pharm. Sci.* 2014 Mar; 76(2): 148-56.

Rothan, H., et al. "Fusion of protegrin-1 and plectasin to MAP30 shows significant inhibition activity against dengue virus replication." *PLoS One*. 2014 Apr; 9(4): e94561.

Olasheinde, G., et al. "In vitro studies on the sensitivity pattern of *Plasmodium falciparum* to anti-malarial drugs and local herbal extracts." *Malar J.* 2014 Feb; 13: 63.

Qian, Q., et al. "Enhanced resistance to blast fungus in rice (*Oryza sativa* L.) by expressing the ribosome-inactivating protein α -momorcharin." *Plant Sci.* 2014 Mar; 217-218: 1-7.

Pongthanapisith, V., et al. "Antiviral protein of *Momordica charantia* L. inhibits different subtypes of influenza A." *Evid. Based Complement. Alternat. Med.* 2013; 2013: 729081.

Santos, K., et al. "Trypanocide, cytotoxic, and antifungal activities of *Momordica charantia*." *Pharm Biol.* 2012 Feb; 50(2): 162-6.

Phillips, E., et al. "Bitter melon extract inhibits proliferation of *Trypanosoma brucei* bloodstream forms in vitro." *Exp. Parasitol.* 2013 Mar; 133(3): 353-6.

Waiyaput, W., et al. "Inhibitory effects of crude extracts from some edible Thai plants against replication of hepatitis B virus and human liver cancer cells." *BMC Complement. Altern. Med.* 2012 Dec; 12: 246.

Zhu, F., et al. "Alpha-momorcharin, a RIP produced by bitter melon, enhances defense response in tobacco plants against diverse plant viruses and shows antifungal activity in vitro." *Planta*. 2013 Jan; 237(1): 77-88.

Feng, 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 Jul; 11(5): 417-36.

Mahomoodally, M., et al. "Screening for alternative antibiotics: An investigation into the antimicrobial activities of medicinal food plants of Mauritius." *J. Food Sci.* 2010 Apr; 75(3): M173-7.

Gupta, S., et al. "Momordicatin purified from fruits of *Momordica charantia* is effective to act as

a potent antileishmanial agent." *Parasitol Int.* 2010 Jun; 59(2): 192-7.

Puri, M., et al. "Ribosome inactivating proteins (RIPs) from *Momordica charantia* for anti-viral therapy." *Curr. Mol. Med.* 2009 Dec; 9(9): 1080-94.

Coutinho, H., et al. "Effect of *Momordica charantia* L. in the resistance to aminoglycosides in methicilin-resistant *Staphylococcus aureus*." *Comp. Immunol. Microbiol. Infect. Dis.* 2009 Sep 2.

Braca, A., et al. "Chemical composition and antimicrobial activity of *Momordica charantia* seed essential oil." *Fitoterapia.* 2008; 79(2): 123-5.

Fan, J., et al. "Inhibition on Hepatitis B virus *in vitro* of recombinant MAP30 from bitter melon." *Mol. Biol. Rep.* 2009; 36(2): 381-8.

Vashishta, A., et al. "*In vitro* refolded napin-like protein of *Momordica charantia* expressed in *Escherichia coli* displays properties of native napin." *Biochim. Biophys. Acta.* 2006; 1764(5): 847-55.

Das, P., et al. "Screening of antihelminthic effects of Indian plant extracts: a preliminary report." *J. Altern. Complement. Med.* 2006 Apr; 12(3): 299-301.

Saeed, S. Et al. "Antibacterial activities of *Mentha piperita*, *Pisum sativum* and *Momordica charantia*." *Pak. J. Bot.* 2005; 37: 997.

Schmourlo, G., et al. "Screening of antifungal agents using ethanol precipitation and bioautography of medicinal and food plants." *J. Ethnopharmacol.* 2005 Jan; 96(3): 563.

Jiratchariyakul, W., et al. "HIV inhibitor from Thai bitter gourd." *Planta Med.* 2001 Jun; 67(4): 350-3.

Zheng, Y., et al. "Alpha-momorcharin inhibits HIV-1 replication in acutely but not chronically infected T-lymphocytes." *Zhongguo Yao Li Xue Bao.* 1999; 20(3): 239-43.

Frame, A., et al. "Plants from Puerto Rico with anti-*Mycobacterium tuberculosis* properties." *P. R. Health Sci. J.* 1998; 17(3): 243-52.

Khan, M., et al. "*Momordica charantia* and *Allium sativum*: Broad spectrum antibacterial activity." *Korean J. Pharmacog.* 1998; 29(3): 155-58.

Bourinbaïar, A., et al. "The activity of plant-derived antiretroviral proteins MAP30 and GAP31 against *Herpes simplex virus in vitro*." *Biochem. Biophys. Res. Commun.* 1996; 219(3): 923-29.

Omogbe, R., et al. "Antimicrobial activity of some medicinal plants' extracts on *Escherichia coli*, *Salmonella paratyphi* and *Shigella dysenteriae*." *Afr. J. Med. Med. Sci.* 1996; 25(4): 373-75.

Lee-Huang, S., et al. "Inhibition of the integrase of human immunodeficiency virus (HIV) type 1 by anti-HIV plant proteins MAP30 and GAP31." *Proc. Natl. Acad. Sci.* 1995; 92(19): 8818-22.

Dong, T., et al. "Ribosome inactivating protein-like activity in seeds of diverse Cucurbitaceae plants." *Indian J. Exp. Biol.* 1993; 25(3): 415-19.

Zhang, Q. "Preliminary report on the use of *Momordica charantia* extract by HIV patients." *J. Naturopath. Med.* 1992; 3: 65-9.

Hussain, H., et al. "Plants in Kano ethnomedicine: Screening for antimicrobial activity and alkaloids." *Int. J. Pharmacog.* 1991; 29(1): 51-6.

Huang, T., et al. "Studies on antiviral activity of the extract of *Momordica charantia* and its active principle." *Virologica*. 1990; 5(4): 367-73.

Lee-Huang, S. "MAP 30: A new inhibitor of HIV-1 infection and replication." *FEBS Lett*. 1990; 272(1-2): 12-18.

Takemoto, D. "Purification and characterization of a cytostatic factor with anti-viral activity from the bitter melon." *Prep. Biochem*. 1983; 13(4): 371-93.

Takemoto, D. et al. "Purification and characterization of a cytostatic factor from the bitter melon *Momordica charantia*." *Prep. Biochem*. 1982; 12(4): 355-75.

Return to the Tropical Plant [Database File on Bitter Melon](#)

Copyrighted 2025 by Leslie Taylor. All rights reserved.