BITTER MELON POWDER

Description: Bitter melon whole herb powder (*Momordica charantia*) has been milled into a fine powder, which is suitable to stuff into capsules or to prepare your own teas, tinctures or extracts. It has been sustainably wild harvested in the Brazilian Amazon and it is rich in active and beneficial phytochemicals that occur naturally in this plant. Bitter melon contains an array of biologically active plant chemicals including triterpenes, proteins, and steroids.

Traditional Uses: Bitter melon powder for cancer; for viral infections (HIV, herpes, Epstein Barr, hepatitis, influenza, and measles); for bacterial infections (*Staphylococcus, Streptococcus*, and *Salmonella*), as a bitter digestive aid (for dyspepsia and sluggish digestion); for diabetes.

Ingredients: Pure 100% bitter melon (*Momordica charantia*) whole herb (root, leaf, stem, seed). No binders, fillers or additives are used. This product is non-irradiated and non-fumigated. It is a wild harvested product—grown naturally in the rainforest without any pesticides or fertilizers.

Suggested Use: This plant is best prepared as a decoction. Use one teaspoon of powder for each cup of water. Bring to a boil and gently boil in a covered pot for 20 minutes. Allow to cool and settle for 10 minutes and strain warm liquid into a cup (leaving the settled powder in the bottom of the pan). It is traditionally taken in one cup dosages, 2-3 times daily.

Contraindications:

- Do not use if pregnant or breast feeding.
- This plant has been documented in animal studies to reduce fertility in both males and females and should therefore not be used by those undergoing fertility treatment or seeking pregnancy.
- Bitter melon has demonstrated in animal and human studies that it lowers blood sugar levels. As such, it is contraindicated in persons with hypoglycemia. Diabetics should use with caution while monitoring their blood sugar levels regularly.

Drug Interactions: It may potentiate insulin and anti-diabetic drugs.

Clinical Documentation and Research: Available third-party documentation and independent research on bitter melon can be found at **PubMed/Medline**. A partial listing of the available published research on bitter melon is shown below:

Antimicrobial & Anti-parasitic Actions:

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.

Schmourlo, G., et al. “Screening of antifungal agents using ethanol precipitation and bioautography of medicinal and food plants.” *J. Ethnopharmacol.* 2005 Jan; 96(3): 563-8.

Zheng, Y. T., 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. D., et al. “Plants from Puerto Rico with anti-*Mycobacterium tuberculosis* properties.” *P. R. Health Sci. J.* 1998; 17(3): 243–52.

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

Bourinbaiar, A. S., 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.

Omoregbe, R. E., 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. X., et al. “Ribosome inactivating protein-like activity in seeds of diverse *Cucurbitaceae* plants.” *Indian J. Exp. Biol.* 1993; 25(3): 415–19.

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

Hussain, H. S. N., et al. “Plants in Kano ethomedicine: Screening for antimicrobial activity and alkaloids.” *Int. J. Pharmacog.* 1991; 29(1): 51–6.

Huang, T. M., 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. J. “Purification and characterization of a cytostatic factor with anti-viral activity from the bitter melon.” *Prep. Biochem.* 1983; 13(4): 371–93.

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

Anticancerous & Cytotoxic Actions:

Hwang, Y., et al. “Momordin I, an inhibitor of AP-1, suppressed osteoclastogenesis through inhibition of NF-kappaB and AP-1 and also reduced osteoclast activity and survival.” *Biochem. Biophys. Res. Commun*. 2005 Nov; 337(3): 815-23.

Yasui, Y., et al. “Bitter gourd seed fatty acid rich in 9c,11t,13t-conjugated linolenic acid induces apoptosis and up-regulates the GADD45, p53 and PPARgamma in human colon cancer Caco-2 cells.”

Prostaglandins Leukot. Essent. Fatty Acids. 2005 Aug; 73(2): 113-9.
Ike, K., et al. “Induction of interferon-gamma (IFN-gamma) and T helper 1 (Th1) immune response by bitter gourd extract.” *J. Vet. Med. Sci.* 2005; 67(5): 521-4.

Nagasawa, H., et al. “Effects of bitter melon (*Momordica charantia)* or ginger rhizome (*Zingiber offifinale* Rosc.) on spontaneous mammary tumorigenesis in SHN mice.” *Am. J. Clin. Med.* 2002; 30(2–3): 195–205.

Kim, J. H., et al. “Induction of apoptosis by momordin I in promyelocytic leukemia (HL-60) cells.” *Anticancer Res*. 2002 May-Jun; 22(3): 1885-9.

Tazzari, P. L., et al. “An Epstein-Barr virus-infected lymphoblastoid cell line (D430B) that grows in SCID-mice with the morphologic features of a CD30+ anaplastic large cell lymphoma, and is sensitive to anti-CD30 immunotoxins.” *Haematologica*. 1999; 84(11): 988-95.

Lee, D. K., et al. “Momordins inhibit both AP-1 function and cell proliferation.” *Anticancer Res.* 1998 Jan-Feb; 18(1A): 119-24.

Terenzi, A., et al. “Anti-CD30 (BER=H2) immunotoxins containing the type-1 ribosome-inactivating proteins momordin and PAP-S (pokeweed antiviral protein from seeds) display powerful antitumor activity against CD30+ tumor cells in vitro and in SCID mice.” *Br. J. Haematol.* 1996; 92(4): 872–79.

Bolognesi, A., et al. “Induction of apoptosis by ribosome-inactivating proteins and related immunotoxins.” *Int. J. Cancer*. 1996 Nov; 68(3): 349-55.

Battelli, M. G., et al. “Toxicity of ribosome-inactivating proteins-containing immunotoxins to a human bladder carcinoma cell line.” *Int. J. Cancer.* 1996 Feb; 65(4): 485-90.

Lee-Huang, S., et al. “Anti-HIV and anti-tumor activities of recombinant MAP30 from bitter melon.” *Gene.*1995; 161(2):151–56.

Cunnick, J. E., et al. “Induction of tumor cytotoxic immune cells using a protein from the bitter melon *(Momordica charantia*).” *Cell Immunol*. 1990 Apr; 126(2): 278-89.

Zhu, Z. J., et al. “Studies on the active constituents of *Momordica charantia* l.” *Yao. Hsueh. Hsueh. Pao.*1990; 25(12): 898–903.

Stirpe, F., et al. “Selective cytotoxic activity of immunotoxins composed of a monoclonal anti-Thy 1.1 antibody and the ribosome-inactivating proteins bryodin and momordin.” *Br. J. Cancer.* 1988 Nov; 58(5): 558-61.

Takemoto, D. J., et al. “Purification and characterization of a cytostatic factor with anti-viral activity from the bitter melon. Part 2.” *Prep Biochem.* 1983; 13(5): 397-421.

Takemoto, D. J., et al. “The cytotoxic and cytostatic effects of the bitter melon (*Momordica charantia*) on human lymphocytes.” *Toxicon*. 1982; 20: 593–99.

Takemoto, D. J., et al. “Guanylate cyclase activity in human leukemic and normal lymphocytes. Enzyme inhibition and cytotoxicity of plant extracts.” *Enzyme.* 1982; 27(3): 179–88.

Takemoto, D. J., et al. “Partial purification and characterization of a guanylate cyclase inhibitor with cytotoxic properties from the bitter melon (*Momordica charantia*).” *Biochem. Biophys. Res. Commun.* 1980; 94(1): 332–39.

Claflin, A. J., et al. “Inhibition of growth and guanylate cyclase activity of an undifferentiated prostate adenocarcinoma by an extract of the balsam pear (*Momordica charantia* abbreviata).” *Proc. Natl. Acad. Sci.* 1978; 75(2): 989–93.

Vesely, D. L., et al. “Isolation of a guanylate cyclase inhibitor from the balsam pear (*Momordica charantia* abbreviata).” *Biochem. Biophys. Res. Commun.* 1977; 77(4): 1294–99.

Antidiabetic & Hypoglycemic Actions:

Omar, S., et al. “Hypoglycemic effect of the seeds of *Momordica charantia.*” *Fitoterapia*. 2007; 78(1): 46-7.

Ojewole, J., et al. “Hypoglycaemic and hypotensive effects of *Momordica charantia* Linn (Cucurbitaceae) whole-plant aqueous extract in rats.” *Cardiovasc. J. S. Afr.* 2006 Sep-Oct; 17(5): 227-32.

Mahomoodally, M., et al. “Effect of exogenous ATP on *Momordica charantia* Linn. (Cucurbitaceae) induced inhibition of d-glucose, l-tyrosine and fluid transport across rat everted intestinal sacs in vitro.” *J. Ethnopharmacol*. 2006 Sep 26;

Lans, C. “Ethnomedicines used in Trinidad and Tobago for urinary problems and diabetes mellitus.” *J. Ethnobiol. Ethnomedicine.* 2006 Oct 13; 2:45.

Chuang, C., et al. “Fractionation and identification of 9c, 11t, 13t-conjugated linolenic acid as an activator of PPARalpha in bitter gourd (*Momordica charantia* L.).” *J. Biomed. Sci.* 2006 Nov; 13(6): 763-72.

Krawinkel, M., et al. “Bitter gourd (*Momordica charantia)*: A dietary approach to hyperglycemia.” *Nutr. Rev.* 2006; 64(7 Pt 1): 331-7.

Harinantenaina, L., et al. “*Momordica charantia* constituents and antidiabetic screening of the isolated major compounds.” *Chem. Pharm. Bull.* 2006; 54(7): 1017-21.

Abd El Sattar, E., et al. “Some toxicological studies of *Momordica charantia* L. on albino rats in normal and alloxan diabetic rats.” *J. Ethnopharmacol.* 2006 Nov; 108(2): 236-42.

Yibchok-Anun. S., et al. “Slow acting protein extract from fruit pulp of *Momordica charantia* with insulin secretagogue and insulinomimetic activities.” *Biol. Pharm. Bull.* 2006 Jun;29(6):1126-31.

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Kumar, G., et al. “Effect of bitter gourd and spent turmeric on constituents of glycosaminoglycans in different tissues in streptozotocin induced diabetic rats.” *Mol. Cell. Biochem.* 2006 Jun; 286(1-2) :53-8.

Reyes, B., et al. “Anti-diabetic potentials of *Momordica charantia* and *Andrographis paniculata* and their effects on estrous cyclicity of alloxan-induced diabetic rats.” *J. Ethnopharmacol.* 2006 Apr; 105(1-2): 196-200.

Khan, B., et al. “Hypogylcemic activity of aqueous extract of some indigenous plants.” *Pak. J. Pharm. Sci.* 2005; 18(1): 62-4.

Zheng, Z. X., et al. “The hypoglycemic effects of crude polysaccharides extract from *Momordica charantia* in mice.” *Wei Sheng Yan Jiu.* 2005 May; 34(3): 361-3.

Reyes, B. A., et al. “Anti-diabetic potentials of *Momordica charantia* and *Andrographis paniculata* and their effects on estrous cyclicity of alloxan-induced diabetic rats.” *J. Ethnopharmacol.* 2005 Nov 16;

Sathishsekar, D., et al. “Beneficial effects of *Momordica charantia* seeds in the treatment of STZ-induced diabetes in experimental rats.” *Biol. Pharm. Bull.* 2005; 28(6): 978-83.

Shetty, A. K., et al. “Effect of bitter gourd (*Momordica charantia*) on glycaemic status in streptozotocin induced diabetic rats.” *Plant Foods Hum. Nutr.* 2005 Sep; 60(3): 109-12.

Kumar Shetty, A., et al. “Bitter gourd (*Momordica charantia*) modulates activities of intestinal and renal disaccharidases in streptozotocin-induced diabetic rats.” *Mol. Nutr. Food Res.* 2005; 49(8): 791-6.

Chaturvedi, P., et al. “Effect of *Momordica charantia* on lipid profile and oral glucose tolerance in diabetic rats.” *Phytother. Res*. 2004; 18(11): 954-6.

Vikrant, V., et al. “Treatment with extracts of *Momordica charantia* and *Eugenia jambolana* prevents hyperglycemia and hyperinsulinemia in fructose fed rats.” *J. Ethnopharmacol.* 2001; 76(2): 139–43.

Miura, T., et al. “Hypoglycemic activity of the fruit of the *Momordica charantia* in type 2 diabetic mice.” *J. Nutr. Sci. Vitaminol*. 2001; 47(5): 340–44.

Raza, H., et al. “Modulation of xenobiotic metabolism and oxidative stress in chronic streptozotocininduced diabetic rats fed with *Momordica charantia* fruit extract.” *J. Biochem. Mol. Toxicol.* 2000; 14(3): 131–39.

Ahmad, N., et al. “Effect of *Momordica charantia* (Karolla) extracts on fasting and postprandial serum glucose levels in NIDDM patients.” *Bangladesh Med. Res. Counc. Bull.* 1999; 25(1): 11–13.

Ahmed, I., et al. “Effects of *Momordica charantia* fruit juice on islet morphology in the pancreas of the streptozotocin-diabetic rat.” *Diabetes Res. Clin. Pract.* 1998; 40(3): 145–51.

Sarkar, S., et al. “Demonstration of the hypoglycemic action of *Momordica charantia* in a validated animal model of diabetes.” *Pharmacol. Res.* 1996; 33(1): 1–4.

Ali, L., et al. “Studies on hypoglycemic effects of fruit pulp, seed and whole plant of *Momordica charantia* on normal and diabetic model rats.” *Planta Med.* 1993; 59(5): 408–12.

Akhtar, M. S. “Trial of *Momordica charantia* Linn (Karela) powder in patients with maturity-onset diabetes.” *J. Pak. Med. Assoc.* 1982; 32(4): 106–7.

Cholesterol-Lowering & Antioxidant Actions:

Nerurkar, P., et al. “Lipid lowering effects of *Momordica charantia* (Bitter Melon) in HIV-1-protease inhibitor-treated human hepatoma cells, HepG2.” *Br. J. Pharmacol.* 2006 Aug; 148(8): 1156-64.

Chan, L. L., et al. “Reduced adiposity in bitter melon (*Momordica charantia*)-fed rats is associated with increased lipid oxidative enzyme activities and uncoupling protein expression.” *J. Nutr.* 2005; 135(11): 2517-23.

Chen, Q., et al. “Reduced adiposity in bitter melon (*Momordica charantia)* fed rats is associated with lower tissue triglyceride and higher plasma catecholamines.” *Br. J. Nutr.* 2005; 93(5): 747-54.

Hsieh, C. L., et al. “Inhibitory effect of some selected nutraceutic herbs on LDL glycation induced by glucose and glyoxal.” *J. Ethnopharmacol*. 2005 Dec; 102(3): 357-63.

Chaturvedi, P. “Role of *Momordica charantia* in maintaining the normal levels of lipids and glucose in diabetic rats fed a high-fat and low-carbohydrate diet.” *Br. J. Biomed. Sci.* 2005; 62(3): 124-6.

Sathishsekar, D., et al. “Antioxidant properties of *Momordica charantia* (bitter gourd) seeds on streptozotocin induced diabetic rats.” *Asia Pac. J. Clin. Nutr.* 2005; 14(2): 153-8.

Ansari, N. M., et al. “Antioxidant activity of five vegetables traditionally consumed by South-Asian migrants in Bradford, Yorkshire, UK.” *Phytother. Res.* 2005; 19(10): 907-11.

Senanayake, G.V. et al. “The effects of bitter melon (*Momordica charantia*) extracts on serum and liver lipid parameters in hamsters fed cholesterol-free and cholesterol-enriched diets.” *J. Nutr. Sci. Vitaminol.* 2004 Aug; 50(4): 253-7.

Ahmed, I., et al. “Hypotriglyceridemic and hypocholesterolemic effects of anti-diabetic *Momordica charantia* (Karela) fruit extract in streptozotocin-induced diabetic rats.” *Diabetes Res. Clin. Pract*. 2001; 51(3):155–61.

Jayasooriya, A. P., et al. “Effects of *Momordica charantia* powder on serum glucose levels and various lipid parameters in rats fed with cholesterol-free and cholesterol-enriched diets.” *J. Ethnopharmacol.* 2000; 72 (1–2): 331.

Anti-ulcer Actions:

Dengiz, G. O., et al. “Effects of *Momordica charantia* L. (Cucurbitaceae) on indomethacin-induced ulcer model in rats.” *Turk. J. Gastroenterol*. 2005 Jun; 16(2): 85-88.

Yesilada, E., et al. “Screening of Turkish anti-ulcerogenic folk remedies for anti-*Helicobacter pylori* activity.” *J. Ethnopharmacol*. 1999; 66(3): 289–93.

Anti-fertility Actions:

Girini, M. M., et al. “Effect of graded doses of *Momordica charantia* seed extract on rat sperm: scanning electron microscope study.” *J. Basic Clin. Physiol. Pharmacol.* 2005; 16(1): 53-66.

Bhakuni, D. S., et al. “Screening of Indian plants for biological activity: Part XIII.” *Indian J. Exp. Biol.* 1988; 26(11): 883RY–904

Koentjoro-Soehadi, T., et al. “Perspectives of male contraception with regards to Indonesian traditional drugs.” *Proc. Second National Congress of Indonesian Society of Andrology*. 1982; Aug. 2–6: 12.

Dixit, V. P., et al. “Effects of *Momordica charantia* fruit extract on the testicular function of dog.” *Planta Med.* 1978; 34: 280–86.

Prakash, A. O., et al. “Screening of Indian plants for antifertility activity.” *Indian J. Exp. Biol.* 1976; 14: 623–626.

Stepka, W., et al. “Antifertility investigation on *Momordica*.” *Lloydia*. 1974; 37(4): 645c.

Jamwal, K. S., et al. “Preliminary screening of some reputed abortifacient indigenous plants.” *Indian J. Pharmacy* 1962; 24: 218–20.

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** The statements contained herein have not been evaluated by the Food and Drug Administration. This product is not intended to treat, cure, or prevent any disease.