

# Core-Own A™ “27”

## Herbal Adaptogenic Enhancer

The physical **core** of the human body is its skeleton, the core of the bones their marrow, producing and housing progenitor cells of the body’s immune system. When we **own** our core, we unite with ourselves, mind with body, immunologically competent, lympho-neurically tuned.

**Core-Own A™ “27”** combines extracts of **twenty-seven** natural or, whenever possible, certified organically grown, herbs to help the individual “own his / her core,” to be in tune with one’s immunological self as well as one’s psychological self. The formula is led by the flowers of the pomegranate tree, *Punica granatum Flos*, and followed by the peels of the tree’s fruit, *Punica granatum Pericarp*, and twenty-five additional herbs including one medicinal mushroom, as listed below. A brief notation on each herb, including references, follows the list.

1. 100 *Punica granatum Flos*
2. 100 *Punica granatum Pericarp*
3. 1000 *Zingiber officinale Rhizome (fresh)*
4. 1000 *Astragalus membranaceus Radix*
5. 1000 *Pueraria montana Radix*
6. 15 *Ceanothus americanus Radix*
7. 1000 *Scutellaria baicalensis Radix*
8. 15 *Lonicera japonica Flos*
9. 300 *Atractylodes macrocephala Radix*
10. 50 *Cinnamomum cassia Cortex*
10. 30 *Acorus calamus Rhizome*
11. 90 *Panax ginseng Radix*
12. 200 *Citrus reticulata Pericarp*
13. 5 *Peganum harmala Semen*

- |     |     |                                     |
|-----|-----|-------------------------------------|
| 14. | 9   | Cordyceps militaris Sporocarp       |
| 15. | 100 | Humulus lupulus Flos                |
| 16. | 100 | Ginkgo biloba Folium                |
| 17. | 50  | Urtica dioica Folium                |
| 18. | 20  | Hypericum perforatum Folium         |
| 19. | 10  | Olea europaea Folium                |
| 20. | 30  | Schisandra chinensis Fructus        |
| 21. | 80  | Musa acuminata Pericarp             |
| 22. | 40  | Oldenlandia diffusa                 |
| 23. | 100 | Eriobotrya japonica                 |
| 24. | 10  | Tripterygium wilfordii Cortex Radix |
| 25. | 20  | Commiphora myrrha Resina            |
| 26. | 20  | Glycyrrhiza glabra Radix            |
| 27. | 10  | Curcuma longae Rhizoma              |
| 29. |     | Ledebouriella                       |
| 29. |     | Forsythia                           |

## **Profiles of the Individual Herbs**

### **I Punica granatum Flos**

*These are the beautiful flowers of the pomegranate tree, rich in ursolic acid and related pentacyclic triterpenoids, dietary compounds with great healing power.*

Howell AB, D'Souza DH. The pomegranate: effects on bacteria and viruses that influence human health. *Evid Based Complement Alternat Med.* 2013;2013:606212.

Katz SR, Newman RA, Lansky EP. Punica granatum: heuristic treatment for diabetes mellitus. *J Med Food.* 2007;10(2):213–217.

Sharifiyan F, Mirjalili SA, Fazilati M, Poorazizi E, Habibollahi S. Variation of ursolic acid content in flowers of ten Iranian pomegranate (*Punica granatum* L.) cultivars. *BMC Chem.* 2019;13(1):80.

Tohmé MJ, Giménez MC, Peralta A, Colombo MI, Delgui LR. Ursolic acid: A novel antiviral compound inhibiting rotavirus infection in vitro. *Int J Antimicrob Agents*. 2019;54(5):601–609.

## **II Punica granatum Pericarp**

*The antiviral activity of pomegranate fruit peel extracts was early recognized for its potential in the treatment of acquired immunodeficiency syndrome and was the subject of a patent promoting its antiviral actions acquired by pharmaceutical giant Merck.*

Houston DMJ, Bugert JJ, Denyer SP, Heard CM. Potentiated virucidal activity of pomegranate rind extract (PRE) and punicalagin against Herpes simplex virus (HSV) when co-administered with zinc (II) ions, and antiviral activity of PRE against HSV and aciclovir-resistant HSV [published correction appears in PLoS One. 2017;12(11):e0188609]. *PLoS One*. 2017;12(6):e0179291.

Moradi MT, Karimi A, Shahrani M, Hashemi L, Ghaffari-Goosheh MS. Anti-Influenza Virus Activity and Phenolic Content of Pomegranate (*Punica granatum* L.) Peel Extract and Fractions. *Avicenna J Med Biotechnol*. 2019;11(4):285–291.

## **III Zingiber officinale Rhizome (fresh)**



*Ginger rhizome, in its fresh form, is possibly the most universally beloved herb.*

Chakraborty B, Sengupta M. Boosting of nonspecific host response by aromatic spices turmeric and ginger in immunocompromised mice. *Cell Immunol.* 2012;280(1):92–100.

Chang JS, Wang KC, Yeh CF, Shieh DE, Chiang LC. Fresh ginger (*Zingiber officinale*) has anti-viral activity against human respiratory syncytial virus in human respiratory tract cell lines. *J Ethnopharmacol.* 2013;145(1):146–151.

Rasool A, Khan MU, Ali MA, et al. Anti-avian influenza virus H9N2 activity of aqueous extracts of *Zingiber officinalis* (Ginger) and *Allium sativum* (Garlic) in chick embryos. *Pak J Pharm Sci.* 2017;30(4):1341–1344.

#### **IV     Astragalus membranaceus Radix**

The queen of external *qi*, astragalus, used intelligently with caution, bolsters immunity.

Khan HM, Raza SM, Anjum AA, Ali MA. Antiviral, embryo toxic and cytotoxic activities of *Astragalus membranaceus* root extracts. *Pak J Pharm Sci.* 2019;32(1):137–142.

Qi Y, Gao F, Hou L, Wan C. Anti-Inflammatory and Immunostimulatory Activities of Astragalosides. *Am J Chin Med.* 2017;45(6):1157–1167.

Zhang P, Liu X, Liu H, et al. *Astragalus* polysaccharides inhibit avian infectious bronchitis virus infection by regulating viral replication. *Microb Pathog.* 2018;114:124–128.

#### **V     Pueraria montana Radix**

*The chalky white Japanese arrow-root is the common dietary kudzu,*

Han P, Li J, Li WJ, Yu ZL, Wang Q, Wu DS. [Potential antiviral drug Pueraria crude extract and puerarin protect against ethanol-induced cytotoxicity in embryonic mouse hippocampal cultures]. *Zhonghua Shi Yan He Lin Chuang Bing Du Xue Za Zhi*. 2005;19(3):244-7.

Lin TJ, Yeh CF, Wang KC, Chiang LC, Tsai JJ, Chang JS. Water extract of *Pueraria lobata* Ohwi has anti-viral activity against human respiratory syncytial virus in human respiratory tract cell lines. *Kaohsiung J Med Sci*. 2013;29(12):651–657.

Mediouni S, Jablonski JA, Tsuda S, et al. Potent suppression of HIV-1 cell attachment by Kudzu root extract. *Retrovirology*. 2018;15(1):64.

## **VI      *Ceanothus americanus* Radix**

*New Jersey tea, aka red root, is a powerful, multipurpose, native American medicine.*

Baltina LA, Flekhter OB, Nigmatullina LR, et al. Lupane triterpenes and derivatives with antiviral activity. *Bioorg Med Chem Lett*. 2003;13(20):3549–3552.

Buhner SH. *Herbal Antivirals: Natural Remedies for Emerging & Resistant Viral Infections*. North Adams, MA, USA: Storey Publishing, pp 416, pp 257-9.

Klein FK, Rapoport H. Ceanothus alkaloids. *Americine. J Am Chem Soc.* 1968; 90(9):2398-2404.

## **VII Scutellaria baicalensis Radix**

By Doronenko - Own work, CC BY 3.0, <https://commons.wikimedia.org/w/index.php?curid=2763048>

*For millennia, root of baical skullcap has reigned as a cardinal Chinese medicinal herb.*

Ji S, Li R, Wang Q, et al. Anti-H1N1 virus, cytotoxic and Nrf2 activation activities of chemical constituents from *Scutellaria baicalensis*. *J Ethnopharmacol.* 2015;176:475–484.

Seong RK, Kim JA, Shin OS. Wogonin, a flavonoid isolated from *Scutellaria baicalensis*, has anti-viral activities against influenza infection via modulation of AMPK pathways. *Acta Virol.* 2018;62(1):78–85.

Zhi HJ, Zhu HY, Zhang YY, Lu Y, Li H, Chen DF. In vivo effect of quantified flavonoids-enriched extract of *Scutellaria baicalensis* root on acute lung injury induced by influenza A virus. *Phytomedicine.* 2019;57:105–116.

## **VIII Lonicera japonica Flos**

*The Chinese prize unopened buds of honeysuckle to remedy cold and flu.*

Mi HJ, Wang YX, Meng J, Wang XH, Tao YH, Wang ZZ. [Preliminary Analysis on Spectrum-Efficient Correlation Model for Anti-Influenza Virus of *Lonicerae Japonicae* Flos by Partial Least Squares Method]. *Zhongguo Zhong Yao Za Zhi*. 2015;40(23):4650–4654.

Yu Y, Zhu C, Wang S, Song W, Yang Y, Shi J. Homosecoiridoid alkaloids with amino acid units from the flower buds of *Lonicera japonica*. *J Nat Prod*. 2013;76(12):2226–2233.

Zhou W, Yin A, Shan J, Wang S, Cai B, Di L. Study on the Rationality for Antiviral Activity of Flos *Lonicerae Japonicae*-Fructus *Forsythiae* Herb Chito-Oligosaccharide via Integral Pharmacokinetics. *Molecules*. 2017;22(4):654.

## **IX     *Atractylodes macrocephala* Radix**

[www.ranbotanicals.com](http://www.ranbotanicals.com)

*Bai zhu rhizome is a safe, nourishing, ancient Chinese medicinal tonic.*

Cheng Y, Mai JY, Hou TL, Ping J, Chen JJ. Antiviral activities of atractylon from *Atractylodis* Rhizoma. *Mol Med Rep*. 2016;14(4):3704–3710.

Gu S, Li L, Huang H, Wang B, Zhang T. Antitumor, Antiviral, and Anti-Inflammatory Efficacy of Essential Oils from *Atractylodes macrocephala* Koidz. Produced with Different Processing Methods. *Molecules*. 2019;24(16):2956. Published 2019 Aug 15.

Luo H, Tang QL, Shang YX, et al. Can Chinese Medicine Be Used for Prevention of Corona Virus Disease 2019 (COVID-19)? A Review of Historical Classics, Research Evidence and Current Prevention Programs [published online ahead of print, 2020 Feb 17]. *Chin J Integr Med.* 2020;10.1007/s11655-020-3192-6.

## **X Cinnamomum cassia Cortex**



*Cinnamon tree bark is delicious, warming, highly medicinal, and sacred.*

Fatima M, Zaidi NU, Amraiz D, Afzal F. In Vitro Antiviral Activity of Cinnamomum cassia and Its Nanoparticles Against H7N3 Influenza A Virus. *J Microbiol Biotechnol.* 2016;26(1):151–159.

Fauvelle C, Lambotin M, Heydmann L, et al. A cinnamon-derived procyanidin type A compound inhibits hepatitis C virus cell entry. *Hepatol Int.* 2017;11(5):440–445.

Hayashi K, Imanishi N, Kashiwayama Y, et al. Inhibitory effect of cinnamaldehyde, derived from Cinnamomi cortex, on the growth of influenza A/PR/8 virus in vitro and in vivo. *Antiviral Res.* 2007;74(1):1–8. doi:10.1016/j.antiviral.2007.01.003

Yeh CF, Chang JS, Wang KC, Shieh DE, Chiang LC. Water extract of Cinnamomum cassia Blume inhibited human respiratory syncytial virus by preventing viral attachment, internalization, and syncytium formation. *J Ethnopharmacol.* 2013;147(2):321–326.

## **XI Acorus calamus Rhizome**





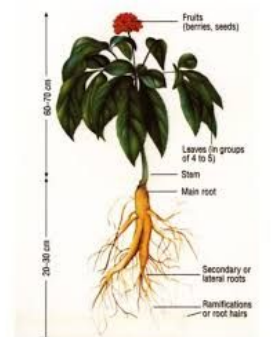
*Highly aromatic, sweet flag is a pillar of perfumery and Ayurveda, known to traditional Chinese medicine, the Native American, and the ancient Levant.*

Rosmalena R, Elya B, Dewi BE, et al. The Antiviral Effect of Indonesian Medicinal Plant Extracts Against Dengue Virus In Vitro and In Silico. *Pathogens*. 2019;8(2):85.

Yao X, Ling Y, Guo S, et al. Tatanan A from the Acorus calamus L. root inhibited dengue virus proliferation and infections. *Phytomedicine*. 2018;42:258–267.

Yao X, Ling Y, Guo S, et al. Inhibition of dengue viral infection by diasarone-I is associated with 2'O methyltransferase of NS5. *Eur J Pharmacol*. 2018;821:11–20.

## **XII Panax ginseng Radix**



*vincent moenchikov. Adapted from Court et al. 7*

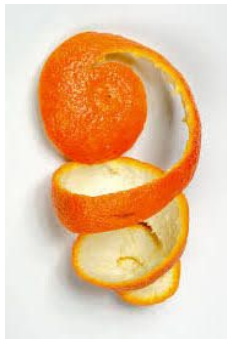
*The king of yang tonics, ginseng is a powerful, pleiotropic adaptogen.*

Lee JS, Cho MK, Hwang HS, et al. Ginseng diminishes lung disease in mice immunized with formalin-inactivated respiratory syncytial virus after challenge by modulating host immune responses. *J Interferon Cytokine Res.* 2014;34(11):902–914.

Lee JS, Ko EJ, Hwang HS, et al. Antiviral activity of ginseng extract against respiratory syncytial virus infection. *Int J Mol Med.* 2014;34(1):183–190.

Yoo DG, Kim MC, Park MK, et al. Protective effect of Korean red ginseng extract on the infections by H1N1 and H3N2 influenza viruses in mice. *J Med Food.* 2012;15(10):855–862.

### **XIII Citrus reticulata Pericarp**



*Dried tangerine peel lightens the effect and taste of tonic roots.*

Sharikadze N, Jojua N, Sepashvili M, Zhuravliova E, Mikeladze DG. Mitochondrial Target of Nobiletin's Action. *Nat Prod Commun.* 2016;11(12):1833–1838.

Tang K, He S, Zhang X, et al. Tangeretin, an extract from Citrus peels, blocks cellular entry of arenaviruses that cause viral hemorrhagic fever. *Antiviral Res.* 2018;160:87–93.

Xu JJ, Wu X, Li MM, et al. Antiviral activity of polymethoxylated flavones from "Guangchenpi", the edible and medicinal pericarps of citrus reticulata 'Chachi'. *J Agric Food Chem.* 2014;62(10):2182–2189.

### **XIV Peganum harmala Semen**



*The seeds of Persian esphand are powerful medicine, valuable even in tiny doses.*

Benzekri R, Bouzlama L, Papetti A, Hammami M, Smaoui A, Limam F. Anti HSV-2 activity of *Peganum harmala* (L.) and isolation of the active compound. *Microb Pathog.* 2018;114:291–298.

Chen D, Tian X, Zou X, et al. Harmine, a small molecule derived from natural sources, inhibits enterovirus 71 replication by targeting NF- $\kappa$ B pathway. *Int Immunopharmacol.* 2018;60:111–120.

Lansky ES, Lansky S, Paavilainen, HM. *Harmal: The Genus Peganum*. Boca Raton, FL, USA: CRC Press, 277 pp.

Moradi MT, Karimi A, Rafieian-Kopaei M, Fotouhi F. In vitro antiviral effects of *Peganum harmala* seed extract and its total alkaloids against Influenza virus. *Microb Pathog.* 2017;110:42–49.

## **XV    *Cordyceps militaris* Sporocarp**

*This unusual and most potent medicinal fungus grows from the carcass of a worm.*

Lee HH, Park H, Sung GH, et al. Anti-influenza effect of *Cordyceps militaris* through immunomodulation in a DBA/2 mouse model. *J Microbiol.* 2014;52(8):696–701.

Ohta Y, Lee JB, Hayashi K, Fujita A, Park DK, Hayashi T. In vivo anti-influenza virus activity of an immunomodulatory acidic polysaccharide isolated from *Cordyceps militaris* grown on germinated soybeans. *J Agric Food Chem*. 2007;55(25):10194–10199.

Ueda Y, Mori K, Satoh S, Dansako H, Ikeda M, Kato N. Anti-HCV activity of the Chinese medicinal fungus *Cordyceps militaris*. *Biochem Biophys Res Commun*. 2014;447(2):341–345.

## **XVI Humulus lupulus Flos**



*Hops, cousin of Cannabis in the Cannabaceae family, is the soporific bitter of beer.*

Buckwold VE, Wilson RJ, Nalca A, et al. Antiviral activity of hop constituents against a series of DNA and RNA viruses. *Antiviral Res*. 2004;61(1):57–62.

Di Sotto A, Checconi P, Celestino I, et al. Antiviral and Antioxidant Activity of a Hydroalcoholic Extract from *Humulus lupulus* L. *Oxid Med Cell Longev*. 2018;2018:5919237. Published 2018 Jul 24.

Liu X, Bai J, Jiang C, et al. Therapeutic effect of Xanthohumol against highly pathogenic porcine reproductive and respiratory syndrome viruses. *Vet Microbiol*. 2019;238:108431.

Wang Q, Ding ZH, Liu JK, Zheng YT. Xanthohumol, a novel anti-HIV-1 agent purified from Hops *Humulus lupulus*. *Antiviral Res*. 2004;64(3):189–194.

Żołnierczyk AK, Mączka WK, Grabarczyk M, Wińska K, Woźniak E, Anioł M. Isoxanthohumol–Biologically active hop flavonoid. *Fitoterapia*. 2015;103:71–82.

## **XVII Ginkgo biloba Folium**

*Ginkgo* is the world's oldest living tree, over 3 and half million years young !

Haruyama T, Nagata K. Anti-influenza virus activity of Ginkgo biloba leaf extracts. *J Nat Med.* 2013;67(3):636–642.

Sochocka M, Sobczyński M, Ochnik M, Zwolińska K, Leszek J. Hampering Herpesviruses HHV-1 and HHV-2 Infection by Extract of *Ginkgo biloba* (EGb) and Its Phytochemical Constituents. *Front Microbiol.* 2019;10:2367.

Wang CZ, Li WJ, Tao R, Ye JZ, Zhang HY. Antiviral activity of a nanoemulsion of polyphenols from ginkgo leaves against influenza A H3N2 and hepatitis B virus in vitro. *Molecules.* 2015;20(3):5137–5151.

## **XVIII Urtica dioica Folium**

*The common "stinging nettle," used medicinally, is a natural antihistamine.*

Flores-Ocelotl MR, Rosas-Murrieta NH, Moreno DA, et al. Taraxacum officinale and Urtica dioica extracts inhibit dengue virus serotype 2 replication in vitro. *BMC Complement Altern Med.* 2018;18(1):95.

Kumaki Y, Wandersee MK, Smith AJ, et al. Inhibition of severe acute respiratory syndrome coronavirus replication in a lethal SARS-CoV BALB/c mouse model by stinging nettle lectin, Urtica dioica agglutinin. *Antiviral Res.* 2011;90(1):22–32.

Uncini Manganelli RE, Zaccaro L, Tomei PE. Antiviral activity in vitro of Urtica dioica L., Parietaria diffusa M. et K. and Sambucus nigra L. *J Ethnopharmacol.* 2005;98(3):323–327.

## **XIX Hypericum perforatum Folium**

St. John's wort is a neurorestorative, mood elevator, and photosensitizer.

Chen H, Muhammad I, Zhang Y, et al. Antiviral Activity Against Infectious Bronchitis Virus and Bioactive Components of *Hypericum perforatum* L. *Front Pharmacol.* 2019;10:1272.

Li YY, Bei Y, Zhang H, Li JA, Zhao W, Xiao QX, Zhang MJ, Huang YD, Xiang Q. [Study on effect of *Hypericum perforatum* on pharmacokinetics of zedoary turmeric oil in compound antiviral preparation]. *Zhongguo Zhong Yao Za Zhi.* 2013 Apr;38(7):1083-6.

Xiuying P, Jianping L, Ruofeng S, Liye Z, Xuehong W, Yan L. Therapeutic efficacy of *Hypericum perforatum* L. extract for mice infected with an influenza A virus. *Can J Physiol Pharmacol.* 2012;90(2):123–130.

## **XX Olea europaea Folium**

*The mysterious olive leaf reflects light from its upper side, absorbs light to its underside.*

Altındış M, Aslan FG, Uzuner H, et al. Zeytin Yaprağı Ekstresi ve Propolisin Herpes Simpleks Virüsü Tip 1 Üzerine Antiviral Etkisinin Asiklovir ile Karşılaştırılması [Comparison of Antiviral Effect of Olive Leaf Extract and Propolis with Acyclovir on Herpes Simplex Virus Type 1]. *Mikrobiyol Bul.* 2020;54(1):79–94.

Lee-Huang S, Zhang L, Huang PL, Chang YT, Huang PL. Anti-HIV activity of olive leaf extract (OLE) and modulation of host cell gene expression by HIV-1 infection and OLE treatment. *Biochem Biophys Res Commun.* 2003;307(4):1029–1037.

Leila A, Lamjed B, Roudaina B, et al. Isolation of an antiviral compound from Tunisian olive twig cultivars. *Microb Pathog.* 2019;128:245–249.

Somerville V, Moore R, Braakhuis A. The Effect of Olive Leaf Extract on Upper Respiratory Illness in High School Athletes: A Randomised Control Trial. *Nutrients.* 2019;11(2):358.

## **XXI Schisandra chinensis Fructus**

*Wu wei zi, “five flavor fruit,” is a tangy classical Chinese medicinal tonic.*

Ma WH, Lu Y, Huang H, Zhou P, Chen DF. Schisanwilsonins A-G and related anti-HBV lignans from the fruits of *Schisandra wilsoniana*. *Bioorg Med Chem Lett*. 2009;19(17):4958–4962.

Qian XJ, Zhang XL, Zhao P, et al. A Schisandra-Derived Compound Schizandronic Acid Inhibits Entry of Pan-HCV Genotypes into Human Hepatocytes. *Sci Rep*. 2016;6:27268. Published 2016 Jun 2.

Xu L, Grandi N, Del Vecchio C, et al. From the traditional Chinese medicine plant *Schisandra chinensis* new scaffolds effective on HIV-1 reverse transcriptase resistant to non-nucleoside inhibitors. *J Microbiol*. 2015;53(4):288–293.

Xue Y, Li X, Du X, et al. Isolation and anti-hepatitis B virus activity of dibenzocyclooctadiene lignans from the fruits of *Schisandra chinensis*. *Phytochemistry*. 2015;116:253–261.

## **XXII Musa acuminata Fructus Pericarp**



*Botanically banana is a berry containing antiviral lectins, i.e., sugar-binding proteins.*

Akkouh O, Ng TB, Singh SS, et al. Lectins with anti-HIV activity: a review. *Molecules*. 2015;20(1):648–668. Published 2015 Jan 6. doi:10.3390/molecules20010648

Hopper JTS, Ambrose S, Grant OC, et al. The Tetrameric Plant Lectin BanLec Neutralizes HIV through Bidentate Binding to Specific Viral Glycans. *Structure*. 2017;25(5):773–782.e5.



Meagher JL, Winter HC, Ezell P, Goldstein IJ, Stuckey JA. Crystal structure of banana lectin reveals a novel second sugar binding site. *Glycobiology*. 2005;15(10):1033–1042.

Sethiya NK, Shekh MR, Singh PK. Wild banana [*Ensete superbum* (Roxb.) Cheesman.]: Ethnomedicinal, phytochemical and pharmacological overview. *J Ethnopharmacol*. 2019;233:218–233.

Stojanović MM, Zivković IP, Petrusić VZ, et al. In vitro stimulation of Balb/c and C57 BL/6 splenocytes by a recombinantly produced banana lectin isoform results in both a proliferation of T cells and an increased secretion of interferon-gamma. *Int Immunopharmacol*. 2010;10(1):120–129.

Swanson MD, Winter HC, Goldstein IJ, Markovitz DM. A lectin isolated from bananas is a potent inhibitor of HIV replication. *J Biol Chem*. 2010;285(12):8646–8655.

### **XXIII Oldenlandia diffusa (Hedyotis) Folium**

Bai Hua She She Cao, *the anticancer “snake tongue flower,” contains novel cyclotides*. .

Daly NL, Clark RJ, Plan MR, Craik DJ. Kalata B8, a novel antiviral circular protein, exhibits conformational flexibility in the cystine knot motif. *Biochem J*. 2006;393(Pt 3):619–626.

Henriques ST, Huang YH, Rosengren KJ, et al. Decoding the membrane activity of the cyclotide kalata B1: the importance of phosphatidylethanolamine phospholipids and

lipid organization on hemolytic and anti-HIV activities. *J Biol Chem*. 2011;286(27):24231–24241.

Ireland DC, Wang CK, Wilson JA, Gustafson KR, Craik DJ. Cyclotides as natural anti-HIV agents. *Biopolymers*. 2008;90(1):51–60. doi:10.1002/bip.20886

Rosengren KJ, Daly NL, Harvey PJ, Craik DJ. The self-association of the cyclotide kalata B2 in solution is guided by hydrophobic interactions [published correction appears in *Biopolymers*. 2014 Jan;102(1):136]. *Biopolymers*. 2013;100(5):453–460.

#### **XXIV Eriobotrya japonica Folium**

*The leaves of the loquat are used in medicine, but the fruits are enjoyed by all.*

Cha DS, Eun JS, Jeon H. Anti-inflammatory and antinociceptive properties of the leaves of *Eriobotrya japonica*. *J Ethnopharmacol*. 2011;134(2):305–312.

De Tommasi N, De Simone F, Pizza C, et al. Constituents of *Eriobotrya japonica*. A study of their antiviral properties. *J Nat Prod*. 1992;55(8):1067–1073.

Kim OK, Nam DE, Jun W, Lee J. Effects of Standardized *Eriobotrya japonica* Extract in LP-BM5 Murine Leukemia Viruses-Induced Murine Immunodeficiency Syndrome. *Immunol Invest*. 2016;45(2):148–160.

Matalaka KZ, Abdulridha NA, Badr MM, Mansoor K, Qinna NA, Qadan F. Eriobotrya japonica Water Extract Characterization: An Inducer of Interferon-Gamma Production Mainly by the JAK-STAT Pathway. *Molecules*. 2016;21(6):722.

Seong NW, Seo HS, Kim JH, et al. A 13-week subchronic toxicity study of an Eriobotrya japonica leaf extract in rats. *J Ethnopharmacol*. 2018;226:1–10.

## **XXV Tripterygium wilfordii Radix**

Lei gong teng, “thunder god vine,” augments therapeutic synergies in miniscule doses.

Hu W, Fu W, Wei X, Yang Y, Lu C, Liu Z. A Network Pharmacology Study on the Active Ingredients and Potential Targets of *Tripterygium wilfordii* Hook for Treatment of Rheumatoid Arthritis. *Evid Based Complement Alternat Med*. 2019;2019:5276865.

Li T, Xie J, Li Y, et al. Tripterygium wilfordii Hook F extract in cART-treated HIV patients with poor immune response: a pilot study to assess its immunomodulatory effects and safety. *HIV Clin Trials*. 2015;16(2):49–56.

Lin KX, Wang CZ, Qian GS. [Effect of Tripterygium Wilfordii on Th1, Th2 Cytokines Production in Asthma Patients]. *Zhongguo Zhong Xi Yi Jie He Za Zhi*,21 (1), 22-4, 2001.

Rao Y, Wei HZ, Chen YF, et al. [Advances in Studies Compatibility Applied To attenuation and Synergy of Tripterygium Wilfordii]. *Zhongguo Zhong Yao Za Zhi*. 2008;33(14):1658–1661.

Ryu YB, Park SJ, Kim YM, et al. SARS-CoV 3CLpro inhibitory effects of quinone-methide triterpenes from *Tripterygium regelii*. *Bioorg Med Chem Lett*. 2010;20(6):1873–1876. doi:10.1016/j.bmcl.2010.01.152

Yu JS, Tseng CK, Lin CK, et al. Celastrol inhibits dengue virus replication via up-regulating type I interferon and downstream interferon-stimulated responses. *Antiviral Res.* 2017;137:49–57.

## **XXVI Commiphora myrrha Resina**

*The myrrh trees of the Bible exude antiseptic healing gum from their bark.*

Bakari GG, Max RA, Mdegela RH, Phiri EC, Mtambo MM. Antiviral activity of crude extracts from *Commiphora swynnertonii* against Newcastle disease virus in ovo. *Trop Anim Health Prod.* 2012;44(7):1389–1393.

Bousslama L, Kouidhi B, Alqurashi YM, Chaieb K, Papetti A. Virucidal Effect of Guggulsterone Isolated from *Commiphora gileadensis*. *Planta Med.* 2019;85(16):1225–1232.

Ljaljević Grbić M, Unković N, Dimkić I, et al. Frankincense and myrrh essential oils and burn incense fume against micro-inhabitants of sacral ambients. Wisdom of the ancients?. *J Ethnopharmacol.* 2018;219:1–14.

## **XXVII Glycyrrhiza glabra Radix**

*Licorice root adds sweetness to any herbal formula and improves its absorption.*

Baltina LA, Kondratenko RM, Baltina LA Jr, Plyasunova OA, Pokrovskii AG, Tolstikov GA. Prospects for the creation of new antiviral drugs based on glycyrrhizic acid and its derivatives (a review). *Pharm Chem J.* 2009;43(10):539–548.

Cinatl J, Morgenstern B, Bauer G, Chandra P, Rabenau H, Doerr HW. Glycyrrhizin, an active component of liquorice roots, and replication of SARS-associated coronavirus. *Lancet.* 2003;361(9374):2045–2046.

Fiore C, Eisenhut M, Krausse R, et al. Antiviral effects of Glycyrrhiza species. *Phytother Res.* 2008;22(2):141–148.

## **XXVIII *Curcuma longa* Rhizoma**

*Turmeric, a cousin of ginger and a stalwart of curry, is a photosensitizer.*

Dong JY, Ma XY, Cai XQ, et al. Sesquiterpenoids from *Curcuma wenyujin* with anti-influenza viral activities. *Phytochemistry.* 2013;85:122–128.

He W, Zhai X, Su J, Ye R, Zheng Y, Su S. Antiviral Activity of Germacrone against Pseudorabies Virus in Vitro. *Pathogens*. 2019;8(4):258.

Huang YD, Xiang Q, Yao CS, Zhang FX, Zhang H, Li XK. [Study on the preparation of zedoary turmeric oil spray and its anti-virus effects]. *Zhong Yao Cai*. 2007;30(3):342–345.

Liao Q, Qian Z, Liu R, An L, Chen X. Germacrone inhibits early stages of influenza virus infection. *Antiviral Res*. 2013;100(3):578–588.

Moghadamtousi SZ, Kadir HA, Hassandarvish P, Tajik H, Abubakar S, Zandi K. A review on antibacterial, antiviral, and antifungal activity of curcumin. *Biomed Res Int*. 2014;2014:186864.

**Thank you for your intention. The cure is in the core.**