



Nutraceutical Guide

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Introduction

This is a summary of the nutraceuticals covered in the Covid Immunity Course. It includes suggested doses, brands, and precautions. These nutraceuticals were selected based on scientific studies that support their potential effectiveness, but it would be wise for you to discuss any that you have not used before with your doctor.

This is especially true for children and pregnant women.

In cases where the per capsule dose of a recommended brand exceeds the recommended dose, open the capsule and mix the desired portion into water or another beverage.

The nutraceuticals selected are based on recommendations from ConsumerLab.com (a leading provider of independent test results and information that identifies the best quality health and nutrition products), Labdoor (an independent company that tests supplements), and Amazon.com ratings.

Use the [Nutraceutical Matrix](#) to guide when you might use these nutraceuticals, and how some may be substituted with others. Like this Guide, the Matrix begins with Protocol 2, which is the first protocol that addresses nutraceuticals.



Protocol 2: Build Foundational Immunity

These nutraceuticals may help improve your immune system's resistance to a SARS-CoV-2 infection and reduce your baseline level of chronic inflammation.

	Potential Benefits	Precautions	Dose Guidance	Suggested Brand(s)
Nasal Spray (Lesson 3)	Can be effective in clearing a virus from the nasal cavity primarily due to increasing humidity. [1,2]	Ingredients in Xlear are considered safe [more].	Spray each nostril twice every hour when in close contact with people.	Xlear
Magnesium (Lesson 4)	This mineral activates the parasympathetic nervous system, and regulates the hormone melatonin. [1]	Diarrhea, upset stomach [more].	200 to 400 mg/day w/ food.	Vitacost Magnesium Citrate
Melatonin (Lesson 4)	This hormone is a useful sleep aid, inhibits NLRP3 inflammasome activation [2] and reduces airway inflammation. [3] Two studies propose its use to treat COVID-19. [4,5]	High blood pressure, autoimmune disease [more].	1 to 5 mg, 30 to 60 min. before bed.	Swanson Melatonin 1 mg REMfresh 5mg continuous release
Red Ginseng (Lesson 5)	This Korean herb can delay the onset of the body's short- and long-term response to stress, and reduce its severity. It increases the release of interferon, a key component of antiviral immunity, and	Possible insomnia, headaches, dizziness, irregular heart beat [more].	600 mg 1-2x/day.	GNC Herbal Plus Panax Ginseng



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	may reduce virus symptoms. [6] It also can decrease various inflammatory cytokines, including one involved in the inflammatory response to SARS-CoV-2. [7]			
Ashwagandha (Lesson 5)	This herb can reduce cortisol levels, a by-product of chronic stress.[8]	Could interfere w/ blood sugar and blood pressure medication [more].	500 mg 1x/day, or 250 mg 2x/day.	Nature's Way Ashwagandha
Rhodiola (Lesson 5)	This herb can exert positive effects in those with stress and fatigue, studies indicate. [8,9]	Don't combine w/ benzodiazepines [more].	250 mg 2x/day	Nature's Way Rhodiola
Vitamin D (Lessons 8)	A steroid hormone and immune system modulator that reduces the expression of inflammatory cytokines and increases macrophage function. [6] May prevent upper respiratory infections. [7] A laboratory range of >50 and < 80ng/mL serum 25-hydroxy vitamin D may help to mitigate morbidity from COVID-19 infection.	Kidney stones, phosphate or calcium in blood, blocked arteries [more].	1,000 -- 5,000 iu/day. Use lower dose if healthy and consistently in sunshine. Consult w/ doctor if serum levels are low.	Source Naturals Vitamin D-3 Liquid Drops 2000 iu



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<p>Vitamin A (Lessons 8)</p>	<p>A micronutrient known as an anti-inflammation vitamin, given its critical role in enhancing immune function. Protects epithelium and mucus integrity in the body. Modulates T helper cells and cytokine production. Vitamin A has demonstrated a therapeutic effect in the treatment of various infectious diseases. [10,11]</p>	<p>Hepatic disease, renal disease, alcoholism [more].</p>	<p>Up to 5,000 - 10,000 mcg/day.</p>	<p>Spring Valley Vitamin A</p>
<p>Vitamin C (Lessons 8)</p>	<p>Also known as ascorbic acid and ascorbate, it accumulates in phagocytic cells, such as neutrophils, and can enhance microbial killing. May prevent and treat respiratory and systemic infections. [8] Vitamin C has been used in hospital ICUs to treat COVID-19 infection. [9]</p>	<p>Excess oxalic acid in urine, Sickle cell anemia [more].</p>	<p>1 to 3 gm/day. Reduce dose if diarrhea.</p>	<p>Vitamin C by Ester C</p>
<p>Zinc (Lesson 8)</p>	<p>Helps prevent, reduce severity of symptoms, illness duration, prevention of lower respiratory tract infection. Modulates innate and adaptive system viral -induced response. [16,17,18,19,20]</p>	<p>Side effects could include nausea, vomiting, gastric irritation [more].</p>	<p>30–60 mg daily, in divided doses Zinc acetate, citrate, picolinate, or glycinate orally Zinc gluconate as lozenge.</p>	<p>Walgreens Zinc Lozenges Cold EEZE</p>



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<p>Quercetin (Lessons 8, 10)</p>	<p>A plant flavonol, it acts as an antioxidant and anti-inflammatory. Modulates signaling pathways associated with viral healing. [12] Promotes viral eradication or inactivation. [13,14,15]</p>	<p>Can cause headache and tingling of the arms and legs. Very high doses might cause kidney damage [more].</p>	<p>Regular: 1 gm 2x/day. Phytosome: 500 mg 2x/day.</p>	<p>ProHealth Quercetin Bromelain Complex Thorne Research - Quercetin Phytosome</p>
<p>Fish Oil (Lessons 8}</p>	<p>The metabolites of the active constituents AA, EPA and DHA participate in resolution of inflammation, regulate phagocytic action of macrophage and other immunocytes, and have the ability to reduce microbial load. [21]</p>	<p>Might slightly lower blood pressure; increase the risk of bleeding if on anticoagulant medication [more].</p>	<p>1 to 2 gm 2x/day.</p>	<p>Garden of Life Minami Fish Oil Kirkland Omega-3</p>
<p>Elderberry (Lesson 8)</p>	<p>This dark purple berry extract favorably modulates cellular defense and repair mechanisms, as well as viral-induced pathological cellular processes. [22,23,24,25]</p>	<p>Check w/ doctor if you have an autoimmune disease such as multiple sclerosis (MS), lupus (systemic lupus erythematosus, SLE), rheumatoid arthritis (RA), etc. [more].</p>	<p>300 --500 mg/day.</p>	<p>New Chapter Elderberry</p>



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<p>Glutathione (Lesson 9)</p>	<p>This “Master Antioxidant” helps protect against viral infection and minimize the severity of symptoms if infection occurs. [26] doubles natural killer cells’ ability to kill viruses. [27,28,29] Downregulates inflammation in the lung, and helps modulate the immune system response to a viral attack. [30,31,32,33,34]</p>	<p>Side effects are rare, but could include abdominal cramps, bloating, trouble breathing due to bronchial constriction and allergic reactions, such as rash [more].</p>	<p>500 mg/day liposomal formulation.</p>	<p>ProHealth Liposomal Glutathione</p>
<p>NAC (Lesson 9)</p>	<p>A precursor to glutathione, NAC can significantly lower influenza-like episodes and days of bed confinement. [35] May help prevent acute viral respiratory infections. [36,37]</p>	<p>Check with your doctor if you have allergies.</p>	<p>600 mg/2-4x day.</p>	<p>Nutracost NAC powder Doctor’s Best NAC</p>
<p>Fisetin (Lesson 10)</p>	<p>A plant flavonoid and potent senolytic (induces the death of senescent cells). [38]</p>	<p>Little evidence of side effects or toxicity in animal studies. Clinical studies needed to confirm its safety [more].</p>	<p>50 --150 mg/day. Cycle 2 mos on, 1 off.</p>	<p>Doctor’s Best Fisetin</p>
<p>Piperlong-umine (Lesson 10)</p>	<p>A constituent from the fruit of the Asian Long pepper, it’s a notable senolytic. [39]</p>	<p>Unlikely to cause side effects. Caution to those w/ diabetes or bleeding issues [more].</p>	<p>No reliable human dose info. Follow label recommendations.</p>	<p>Bixa Botanicals</p>



Protocol 3: Identify and Control Symptoms

These nutraceuticals can help support natural killer and Th-1 cell functions should you experience Mild or Moderate COVID-19 symptoms as described in the [COVID-19 Symptoms Guide](#).

	Potential Benefits	Precautions	Dose Guidance	Suggested Brands
Astragalus (Lesson 13)	An herb possessing substantial Th2 inhibiting properties [1]. It downregulates Th-2 cytokines [2,3], and upregulates the formation of natural killer cells. [4]	Discuss w/ doctor if you have autoimmune disease [more].	500 mg 2-3x/day. Periodically cycle herbs (use and disuse) every 2 mos.	Powder: Starwest Botanicals Capsules: Nusa Pure
Andrographis (Lesson 13)	This plant is an effective treatment for upper respiratory tract infection [1,2]; promotes natural killer cell activity [3,4]; and reduces the levels of inflammatory cytokines. [5]	Insufficient info re safety of long-term use.	400 mg 2-3x/day.	Now Andrographis
Reishi (Lessons 13)	This medicinal mushroom activates natural killer cells [6,7] and Th1 cells [8,9] Downregulates inflammatory cytokines in the alveolar cells of the respiratory membrane (“alveolar epithelial cells”) [10,11]	May decrease blood pressure, slow blood clotting [more].	600 mg 2x/day.	Swanson’s Reishi For multi-complex, advanced immune support: Host Defense



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<p>Berberine (Lessons 13)</p>	<p>This organic compound found in several plants can prime innate immune function [12,13]; activate natural killer cells [14,15]; promote viral eradication or inactivation [16,17]; promote the Th1 cytokines Interleukin 12 and Interferon Gamma [18]; and inhibit the Th2 cytokine Interleukins [19,20].</p>	<p>Can lower blood sugar and blood pressure [more].</p>	<p>500 mg 2-3x/day.</p>	<p>Amazing Formulas Berberine</p> <p>ProHealth Berberine Pro</p>
<p>Chinese Skullcap (Lessons 13)</p>	<p>This herb possesses antiviral, antioxidant and anti-inflammatory effects. [21,22] Primes innate immune function. [23,24] Increases immune surveillance and downregulates NLRP3 inflammasomes. [25,26] Modulates pulmonary inflammation. [26,27]</p>	<p>Avoid if you have liver problems. Interacts w/ several medications, such as blood thinners, cholesterol-lowering medications, and pain killers [more].</p>	<p>400 mg 2-3x/day.</p>	<p>Huang Qin Extract Use per label instructions.</p> <p>Swanson Chinese Skullcap</p>
<p>Licorice Root (Lessons 13)</p>	<p>This herbal root can inhibit viral replication [28,29], block the ACE2 receptor [30,31]; promote the activity of Th1 cells [32]; and inhibit proinflammatory cytokines [33].</p>	<p>Avoid if you have low potassium levels in the blood [more].</p>	<p>Use an extract, and take around 60 drops 2-3x/day. Discontinue after 4 weeks for 4 weeks.</p>	<p>Nature's Answer Licorice Root</p>



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Echinacea (Lessons 13)	This herb can stimulate macrophage activation and natural killer cell activity. [34,35] Can reduce the frequency, severity, and/or duration of upper respiratory tract symptoms. [36,37,38] Can destroy or inactivate viruses, particularly those that infect membranes. [39]	Generally safe, but can cause a variety of side effects, such as abdominal pain, allergic reactions, altered fertility, diarrhea and dizziness [more].	500 mg 2-3x/day.	Gaia Herbs Echinacea Supreme
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Protocol 4: De-escalate Hyperinflammation

These nutraceuticals can help reduce a hyperinflammatory response to the activation of NLRP3 inflammasome and Nuclear factor kappa β , and to potentially inhibit SARS-CoV-2 replication, should you experience Severe or Critical COVID-19 symptoms as described in the [COVID-19 Symptoms Guide](#), or have any of the comorbidities described in Lesson 10, including being over the age of 50.

	Potential Benefits	Contra-indications	Dose Guidance	Suggested Brands
Potassium (Lesson 15)	It's essential that a human body gets at least 100 milligrams of this essential macromineral, although more is recommended. [1] Insufficient potassium in cells is responsible for the activation of inflammatory responses. [2]	May cause an upset stomach. Some are allergic. Those w/ kidney disease, diabetes, heart disease, Addison's disease, stomach ulcers should not take it [more].	200 - 400 mg, 3-4x/day.	Swanson Potassium



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<p>Curcumin (Lessons 15)</p>	<p>Favorably modulates viral-induced pathological cellular processes, such as NLRP3 inflammasome activation. [3,4,5,6]</p>	<p>Some can experience stomach upset, nausea, dizziness, or diarrhea. Be cautious if you take diabetes medication [more].</p>	<p>500 - 1,000 mg/2x day.</p>	<p>ProHealth Optimized Curcumin</p>
<p>Bromelain (Lesson 15)</p>	<p>This pineapple extract can be effective in conditions characterized by increased mucus production and respiratory inflammation. [7,8] Research also shows that bromelain decreases cytokines. [9]</p>	<p>In rare cases may cause diarrhea, nausea, vomiting, heavier-than-normal menstrual bleeding. Avoid if on a blood thinner [more].</p>	<p>600 - 2400 GDU (measures protein digestion) 1-2x/day between meals.</p>	<p>Jarrow Formulas Bromelain</p>
<p>Resveratrol (Lesson 15)</p>	<p>This polyphenol has been shown to modulate the NLRP3 inflammasome [3], and have in vitro activity against MERS-CoV. [10]</p>	<p>Might slow blood clotting and increase the risk of bleeding in those with bleeding disorders. Don't use if on liver medications [more].</p>	<p>500 - 1,000 mg, 2-3x/day of trans-resveratrol for better absorption.</p>	<p>ProHealth Trans-resveratrol</p>
<p>Boswellia (Lesson 15)</p>	<p>This herbal extract exerts a number of antiinflammatory and antiviral effects, and may significantly inhibit NFkB signaling. [11,12,13]</p>	<p>Common side effects can include diarrhea, nausea and stomach pain [more].</p>	<p>400 mg 2-3x/day</p>	<p>Vitacost Synergy 5-Loxin®-A KBA Boswellia Extract</p>
<p>EGCG (Lesson 15)</p>	<p>This polyphenol found in green tea can favorably modulate viral-induced pathological cellular</p>	<p>Side effects can include liver and kidney failure, dizziness, low</p>	<p>Green tea: 2-4 cups/day.</p>	<p>Matcha Green Powder by Kenko Tea</p>



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	processes via the NLRP3 inflammasome. [3 , 14 , 15]	blood sugar and anemia [more].		
Sulforaphane (Lesson 15)	This phytochemical found in cruciferous vegetables inhibits NLRP3 inflammasome biology. [16 , 17] It also activates an antioxidant pathway [Nrf2] pathway and upregulates glutathione levels. [18 , 19]	Might interfere with liver medications [more].	250 mg 2-3x/day	Source Naturals Broccoli Sprouts Extract
PEA (Lesson 15)	This palmitic acid derivative favorably modulates cellular defense and repair mechanisms, and viral-induced pathological cellular processes. [20 , 21 , 22]	Rare side effects: perhaps stomach ache [more].	600 mg 3x/day if infected for 2 weeks.	Life Extension PEA