

Herbs to avoid

The following are immune modifying and/or anti-inflammatory herbs that should be avoided during COVID-19 infection. They may impair the body's ability to fight the infection, (i.e.; PPAR γ agonists) or may be immune modifiers that risk of cytokine storm. Using a small amount of true cinnamon, oregano or sage in cooking is not likely to have a significant immune-modularly effect on COVID infection, nevertheless, they can when used in medicinal amounts.

Spices and oils:

Allspice¹

Frankincense oil

True cinnamon, and its oil (*Cinnamomum verum*) (common Chinese cinnamon is OK)

Lavender and lavender oil

Olive oil: oleic acid is a PPAR γ agonist and impedes elimination of HMGB1

Oregano and oregano oil

Sage (*Salvia officinalis*) or Rosemary (contain carnosic acid)

Turmeric (curcumin)

Herbs:

Atractylodes macrocephala (Bai Zhu)

Beech leaf

Black walnut husk

Blue vervian

Chastetree leaf

Chlorella or Spirulina; these are immunostimulants increases IL-1 β , INF- γ , and natural killer cell activity, and are expected to have a net harmful effect in cytokine storm.²

Citrus bioflavonoids, rutin: Naringenin and rutin are PPAR γ agonists. ³ Orange peel in tea.

Coneflower (*Echinacea purpura*) Sage (*Salvia officinalis*), and elderberry flowers are PPAR γ agonists. ^{4 5}

Elderberry flowers (Elderberry berries are helpful against viral infections)

Eucalyptus

Feverfew (whole, not parthenolide depleted feverfew).⁶

Goldenseal

Marijuana and CBD, CBD oil (strong PPAR γ agonist)

Yarrow

It's better to avoid tea (green and black teas) Coffee is OK

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- ¹ [Cholinergic agonists inhibit HMGB1 release and improve survival in experimental sepsis.](#) Wang H, Liao H, Ochani M, Justiniani M, Lin X, Yang L, Al-Abed Y, Wang H, Metz C, Miller EJ, Tracey KJ, Ulloa L. *Nat Med.* 2004 Nov;10(11):1216-21. PMID:15502843
- ² [Beneficial immunostimulatory effect of short-term Chlorella supplementation: enhancement of natural killer cell activity and early inflammatory response \(randomized, double-blinded, placebo-controlled trial\).](#) Kwak JH, Baek SH, Woo Y, Han JK, Kim BG, Kim OY, Lee JH. *Nutr J.* 2012 Jul 31;11:53. doi: 10.1186/1475-2891-11-53. PMID:22849818
- ³ [Identification of bioactive compounds from flowers of black elder \(*Sambucus nigra* L.\) that activate the human peroxisome proliferator-activated receptor \(PPAR\) gamma.](#) Christensen KB, Petersen RK, Kristiansen K, Christensen LP. *Phytother Res.* 2010 Jun;24 Suppl 2:S129-32. doi: 10.1002/ptr.3005. PMID:20222152
- ⁴ [Identification of plant extracts with potential antidiabetic properties: effect on human peroxisome proliferator-activated receptor \(PPAR\), adipocyte differentiation and insulin-stimulated glucose uptake.](#) Christensen KB, Minet A, Svenstrup H, Grevsen K, Zhang H, Schrader E, Rimbach G, Wein S, Wolfram S, Kristiansen K, Christensen LP. *Phytother Res.* 2009 Sep;23(9):1316-25. doi: 10.1002/ptr.2782. PMID:19172665
- ⁵ [Identification of bioactive compounds from flowers of black elder \(*Sambucus nigra* L.\) that activate the human peroxisome proliferator-activated receptor \(PPAR\) gamma.](#) Christensen KB, Petersen RK, Kristiansen K, Christensen LP. *Phytother Res.* 2010 Jun;24 Suppl 2:S129-32. doi: 10.1002/ptr.3005. PMID:20222152
- ⁶ [Anti-inflammatory activity of parthenolide-depleted Feverfew \(*Tanacetum parthenium*\).](#) Sur R, Martin K, Liebel F, Lyte P, Shapiro S, Southall M. *Inflammopharmacology.* 2009 Feb;17(1):42-9. doi: 10.1007/s10787-008-8040-9. PMID:19112586