

The Many Benefits of Pau D'Arco

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STORY AT-A-GLANCE

- › Pau d'Arco has antiparasitic, antimicrobial, antiviral, antibacterial, antifungal and anti-inflammatory properties, as well as analgesic, antioxidant, astringent and laxative effects
- › Traditionally, Pau d'Arco has been used for the treatment of wounds, aches and pains, malaria and other tropical diseases, colitis, respiratory infections, fever, inflammation, boils, ulcers and more
- › Many of its benefits are related to its blood-cleansing compounds and compounds that inhibit harmful microorganisms. Lapachol is effective against malaria and quercetin is a powerful antiviral
- › One of the ingredients in Pau d'Arco is beta-lapachone, a potent catalyst for a molecule called NAD+. By increasing NAD+, Pau d'Arco helps improve mitochondrial ATP production
- › Another powerful ingredient in Pau d'Arco is the quercetin, an antioxidant flavonol shown to cleanse the blood and combat inflammation and viral illnesses. It also acts as a natural antihistamine

This article was previously published April 2, 2018, and has been updated with new information.

Pau d'Arco – made from the bark of a large evergreen tropical tree found in the rainforests of the Amazon, South America and Latin America¹ – is a potent antiparasitic remedy with a long history of use by indigenous populations.

It also has antimicrobial, antiviral, antibacterial, antifungal and anti-inflammatory properties, as well as analgesic, antioxidant, astringent and laxative effects. It's one of the supplements I take on a daily basis for its mitochondrial, immune-boosting and antiaging benefits.

Uses and Benefits of Pau D'Arco

Traditional and indigenous medicine has used Pau d'Arco for at least 1,500 years for the treatment of wounds, aches and pains, malaria and other tropical diseases, colitis, respiratory infections, fever, inflammation, boils, ulcers and more. Many of its benefits have been traced back to blood-cleansing compounds and compounds that inhibit harmful microorganisms.

Lapachol, for example, has been shown to be an effective treatment against malaria, and quercetin is a powerful antiviral. In more recent years, studies have confirmed Pau d'Arco's ability to:^{2,3,4}

Accelerate wound healing and treat skin ailments that produce swelling and redness, including psoriasis and eczema

Fight a wide range of infections, including malaria, staph, vaginitis caused by Candida, athlete's foot and fungal infections affecting your nails and skin

Boost immune function and relieve symptoms associated with colds, cough and influenza

Relieve pain associated with arthritis, rheumatism and fibromyalgia

Relieve symptoms associated with liver disease, Hodgkin lymphoma, osteomyelitis, Parkinson's disease, hemorrhoids, allergies and more

Reduce your risk of obesity, in part by lowering blood triglycerides

Reduce your risk of Type 2 diabetes and heart disease

Boost strength and vigor

Pau D'Arco Boosts Energy Production in Your Mitochondria

Interestingly, one of the ingredients in this tree bark is beta-lapachone, which is a potent catalyst for a molecule called nicotinamide adenine dinucleotide (NAD⁺). NAD⁺, found in every cell in your body, is a receptor for electrons in the electron transport chain in your mitochondria. By increasing NAD⁺ intercellularly, Pau d'Arco helps improve mitochondrial ATP production. This is beneficial for health in general, but it's particularly important if you're fighting disease.

NAD⁺ also acts as a signaling molecule – it basically acts as a sensor for stress and disease. (For an extensive discussion on what NAD⁺ is, its benefits, the effects of low NAD⁺, and various ways to boost it, see SelfHacked.com's article, "How to Boost NAD⁺: The Molecule of Youth."⁵)

NAD⁺ declines with age, and antiaging researchers have identified this molecule as one of the primary control mechanisms for slowing down the aging process,⁶ and may actually be the most critical one.

Boosting NAD Can Benefit Health and Longevity

Indeed, nicotinamide mononucleotide (NMN), an intermediate compound in NAD⁺ biosynthesis, has been shown to treat diabetes in mice. As explained by the authors:⁷

"... NMN, a product of the nicotinamide phosphoribosyltransferase (NAMPT) reaction and a key NAD⁺ intermediate, ameliorates glucose intolerance by restoring NAD⁺ levels in [high-fat diet]-induced Type 2 diabetic (T2D) mice. NMN also enhances hepatic insulin sensitivity and restores gene expression related to oxidative stress, inflammatory response and circadian rhythm ...

Furthermore, NAD+ and NAMPT levels show significant decreases in multiple organs during aging, and NMN improves glucose intolerance and lipid profiles in age-induced T2D mice. These findings provide critical insights into a potential nutraceutical intervention against diet- and age-induced T2D."

Other animal research⁸ suggests boosting NAD+ with NMN helps grow new blood vessels in the muscles of old mice – in part by boosting the "antiaging enzyme" SIRT1. As a result, blood flow increased, and the animals' endurance levels increased by as much as 80%. As reported by STAT News:⁹

"The treated mice also benefited from exercise like mice half their age. In young animals, exercise spurs the creation of new blood vessels and boosts muscle mass, but that effect weakens with age in both people and mice. NMN restored the blood-vessel- and muscle-boosting effects of a good treadmill run, basically 'reversing vascular aging in the mice,' said study co-leader David Sinclair of Harvard Medical School ...

The blood-vessel benefits of NMN didn't happen if the mice lacked the SIRT1 gene, probably the brightest star in the antiaging firmament. In the 1990s, it and the six other genes belonging to the family called sirtuins took aging research by storm, as biologists showed that increasing the genes' activity extended life span in yeast, roundworms, and fruit flies by up to 30 percent."

A Simple and Cost-Effective Way to Boost Intracellular NAD

NAD+ supplements and injections can be costly, but there's a simple and inexpensive way to boost NAD+ using Pau d'Arco.

Here's how

1. Mix one-half to 1 teaspoon of Pau d'Arco with 4 to 8 ounces of water. Let steep for 10 to 12 hours

2. Using a high-speed blender, blend into your daily smoothie or use it with some healthy fat such as ghee, MCT oil, coconut oil, olive oil, fish oil, full fat coconut milk or, my personal favorite, half a teaspoon of organic sunflower lecithin, which contains phosphatidylcholine. The fat will increase absorption of beta-lapachone. For even greater benefit, you can add 1 to 2 teaspoons of organic turmeric powder

A Powerful Immune Booster Thanks to Quercetin

Another powerful ingredient in Pau d'Arco is the quercetin,¹⁰ an antioxidant flavonol shown to cleanse the blood and combat inflammation and viral illnesses. It also acts as a natural antihistamine. As a supplement, quercetin has been used to ameliorate obesity, Type 2 diabetes,¹¹ circulatory dysfunction, chronic inflammation, hay fever and mood disorders.¹² A number of studies have also highlighted quercetin's ability to prevent and treat both the common cold and influenza.¹³

In a study funded by the U.S. Defense Advanced Research Projects Agency (DARPA), published in 2008, animals treated with quercetin were challenged with a highly pathogenic H1N1 influenza virus. Again, the treatment group had significantly lower morbidity and mortality than the placebo group. Quercetin's powerful antiviral effects have been attributed to three main mechanisms of action:

- Inhibiting the virus' ability to infect cells
- Inhibiting replication of already infected cells
- Reducing infected cells' resistance to treatment with antiviral medication

Other research,^{14,15} funded by the U.S. Department of Defense, found quercetin reduces viral illness and boosts mental performance following extreme physical stress, which might otherwise undermine your immune function and render you more susceptible to infections.

To investigate the effects of quercetin on viral illness, 40 cyclists were divided into two groups: Half received a daily dose of 1,000 mg of quercetin in combination with vitamin C (which enhances plasma quercetin levels^{16,17}) and niacin (to improve absorption) for five weeks while the other half received a placebo.

Three weeks into the trial, the athletes rode a bicycle for three hours a day, three days in a row. Analysis of blood and tissue samples collected before and after exertion revealed 45% of the placebo group contracted viral illness after the physical stress, compared to just 5% of the treatment group.

The results were considered "groundbreaking," as this was the first clinical, double-blind, randomized, placebo-controlled study to identify a natural plant compound capable of preventing viral illness.

Research Demonstrates Quercetin's Potent Antiviral Effects

A number of studies have confirmed quercetin's effectiveness against influenza and other viruses, including hepatitis B and C viruses. For example:

A 1985 study found quercetin inhibits infectivity and replication of herpes simplex virus type 1, polio virus type 1, parainfluenza virus type 3 and respiratory syncytial virus.¹⁸

A 2010 animal study found that quercetin inhibits both influenza A and B viruses. Two other important discoveries were made. Firstly, the viruses were unable to develop resistance to quercetin and, secondly, when used concomitant with antiviral drugs (amantadine or oseltamivir), the effect was significantly amplified – and it prevented drug resistance from developing.¹⁹

A 2004 animal study investigating quercetin's effect on influenza used a strain of the H3N2 virus. According to the authors:²⁰

"It is concluded that during influenza virus infection, there is 'oxidative stress.' Because quercetin restored the concentrations of many antioxidants, it is proposed that it may be useful as a drug in protecting the lung from the deleterious effects of oxygen derived free radicals released during influenza virus infection."

In 2014, researchers noted that quercetin appears to be "a promising treatment for the common cold" caused by the rhinovirus, adding that "Quercetin has been shown to reduce viral internalization and replication in vitro, and viral load, lung inflammation and airways hyper-responsiveness in vivo."²¹

By attenuating oxidative damage, it also lowers your risk of secondary bacterial infections, which is actually the primary cause of influenza-related deaths. Importantly, quercetin increases mitochondrial biogenesis in skeletal muscle, which suggests part of its antiviral effects are due to enhanced mitochondrial antiviral signaling.

A 2016 animal study found quercetin inhibited mouse hepatitis virus and the dengue virus.²²

Another 2016 study found quercetin offered protection against influenza A virus H1N1 by modulating protein expression. More specifically, the regulation of heat shock proteins, fibronectin 1 and prohibitin was instrumental in reducing viral replication.²³

A third study published in 2016 found quercetin inhibited a wide spectrum of influenza strains, including H1N1, H3N2 and H5N1. According to the authors, "This study indicates that quercetin showing inhibitory activity in the early stage of influenza infection provides a future therapeutic option to develop effective, safe and affordable natural products for the treatment and prophylaxis of [influenza A viruses] infections."²⁴

A number of studies have also shown it can inhibit both hepatitis B²⁵ and C^{26,27} infection. As noted in a Superfoods Scientific Research article on quercetin:²⁸

"Hepatitis C is an important cause of liver failure and liver cancers. In August 2009, [a] cell study²⁹ demonstrated that quercetin interfered with the gene signals that enable hepatitis C virus production ... at least partially through its inhibition of heat shock protein expression. Therapy with quercetin reduced the infectious particle production to nontoxic concentrations of [hepatitis C virus]."

Similarly, research published in 2015 found quercetin inhibited hepatitis B virus replication in human liver cells, protecting cells from infection and limiting the spread of infection in already infected samples.³⁰ As in previous studies, when combined with antiviral drugs, in this case lamivudine, entecavir or adefovir, the antiviral effect was greatly enhanced.

Pau D'Arco Is an All-Around Health Booster

As you can see, Pau d'Arco has a wide variety of benefits, from boosting your general health and immune function to combating infectious, chronic and age-related disease. It can be used in a variety of forms, including:

- Tincture or liquid
- Tablets, softgels, capsules
- Powder
- Ointment
- Tea

To ensure quality and effectiveness, look for products that specify using the inner portion of the bark from the *Tabebuia impetiginosa* species of Pau d'Arco, as this is the

most potent part of the tree. Many will use both inner and outer bark, resulting in diminished quality.

Keep in mind that, while generally safe with few side effects, Pau d'Arco may cause upset stomach and/or nausea when taken at high dosages. Stay within the recommended dosage for the product you buy, as excessive amounts could be toxic and/or produce side effects. Also, Pau d'Arco is not recommended for children and pregnant or breastfeeding women, and should be avoided if you're on blood thinners as it may increase your risk of bleeding.

Sources and References

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