

Liquorice

Glycyrrhiza glabra



Licorice root, which is considered one of the world's oldest herbal remedies, comes from the root of the licorice plant (*Glycyrrhiza glabra*) .

Native to Western Asia and Southern Europe, licorice has long been used to treat various ailments and flavor candies, drinks, and medicines .

Despite this history, only some of its uses are backed by scientific research. Furthermore, licorice may carry several health risks.

This article examines the uses, forms, benefits, side effects, and recommended dosage of licorice root.

How is licorice root used?

Medicinal use of licorice dates back to ancient Egypt, where the root was made into a sweet drink for pharaohs .

It has also been used in traditional Chinese, Middle Eastern, and Greek medicines to soothe an upset stomach, reduce inflammation, and treat upper respiratory problems .

Contemporary uses

Today, many people utilize licorice root to treat ailments like heartburn, acid reflux, hot flashes, coughs, and bacterial and viral infections. It's regularly available as a capsule or liquid supplement .

Additionally, licorice tea is said to [soothe sore throats](#), while topical gels are claimed to treat skin conditions like acne or eczema .

What's more, licorice is used to flavor some foods and beverages .

Surprisingly, many licorice candies are flavored not with licorice root but with anise oil — an essential oil from the [anise plant](#) (*Pimpinella anisum*) that has a similar taste.

Plant compounds

While it contains hundreds of plant compounds, licorice root's primary active compound is glycyrrhizin.

Glycyrrhizin is responsible for the root's sweet taste, as well as its [antioxidant](#), anti-inflammatory, and antimicrobial properties .

However, glycyrrhizin is also linked to many of the adverse effects of licorice root. As a result, some products use [deglycyrrhizinated licorice](#) (DGL), which has had the glycyrrhizin removed.

Potential benefits

Current research shows promise for several of licorice root's medicinal uses.

May aid skin conditions

Licorice root contains over 300 compounds, some of which demonstrate potent anti-inflammatory, antibacterial, and antiviral effects .

In particular, animal and test-tube studies link glycyrrhizin to anti-inflammatory and antimicrobial benefits.

As a result, licorice root extract is used to treat a variety of skin conditions, including acne and [eczema](#).

In a 2-week study in 60 adults, applying a topical gel containing licorice root extract significantly improved eczema.

Though topical licorice gels have also been used to [treat acne](#), research on its effectiveness is mixed and quite limited .



May reduce acid reflux and indigestion

Licorice root extract is often used to relieve symptoms of indigestion, such as [acid reflux](#), upset stomach, and heartburn.

In a 30-day study in 50 adults with indigestion, taking a 75-mg licorice capsule twice daily resulted in significant improvements in symptoms, compared with a placebo .

Licorice root extract may also alleviate symptoms of gastroesophageal reflux disease (GERD), including acid reflux and [heartburn](#).

In an 8-week study in 58 adults with GERD, a low dose of glycyrrhetic acid in combination with standard treatment resulted in significant improvements in symptoms .

Another study in 58 adults with GERD noted that the daily use of licorice root was more effective at reducing symptoms over a 2-year period than commonly used antacids .

While these results are promising, larger human studies are necessary.

May help treat peptic ulcers

Peptic ulcers are painful sores that develop in your stomach, lower esophagus, or small intestine. They're commonly caused by inflammation resulting from *H. pylori* bacteria .

Licorice root extract and its glycyrrhizin may help [treat peptic ulcers](#).

One study in mice found that licorice extract doses of 91 mg per pound (200 mg per kg) of body weight protected against these ulcers better than omeprazole, a common peptic ulcer medication .

While more research is needed in humans, a 2-week study in 120 adults showed that consuming licorice extract in addition to a standard treatment significantly reduced the presence of [H. pylori](#) .

May have anticancer properties

Due to its content of numerous plant compounds with antioxidant and anti-inflammatory effects, licorice root extract has been studied for its protective effects against [certain types of cancer](#).

In particular, licorice extract and its compounds have been linked to slowing or preventing cell growth in skin, breast, colorectal, and prostate cancers.

As research is limited to test tubes and animals, its effects on human cancers are unknown.

Yet, licorice root extract may help treat oral mucositis — very painful mouth sores that people with cancer sometimes experience as a side effect of [chemotherapy](#) and radiation .

A 2-week study in 60 adults with head and neck cancer revealed that a topical licorice film was just as effective as the standard treatment for oral mucositis .



May ease upper respiratory conditions

Due to their anti-inflammatory and antimicrobial effects, both licorice root extract and tea may aid upper respiratory conditions.

In particular, animal studies conclude that glycyrrhizin extract from licorice root helps relieve [asthma](#), especially when added to modern asthma treatments .

While limited human research shows similar results, more rigorous, long-term studies are needed.

Additionally, limited test-tube and human studies suggest that licorice root tea and extract may protect against [strep throat](#) and prevent sore throat after surgery.

May protect against cavities

Licorice root may help protect against bacteria that can lead to cavities.

A 3-week study gave 66 preschool-aged kids sugar-free lollipops containing 15 mg of licorice root twice per day during the school week. Consuming the lollipops significantly reduced the number of *Streptococcus mutans* bacteria, which are the main [cause of cavities](#) .

Test-tube studies also show licorice root extract to be effective at protecting against bacteria commonly linked to cavities and [tooth decay](#) .

However, more research is needed on the optimal dose and form of licorice root.

Other potential benefits

Licorice root extract is tied to several other potential benefits. It may:

- **Aid diabetes.** In a 60-day study in rats, daily intake of licorice root extract resulted in significant improvements in blood sugar levels and kidney health. This effect has not been confirmed in humans .
- **Reduce menopause symptoms.** Licorice root extract has been proposed as a [treatment for hot flashes](#) during menopause. However, the evidence on its effectiveness for this purpose is limited.
- **Boost weight loss.** Some studies indicate that licorice root extract lowers [body mass index \(BMI\)](#) and supports weight loss. Yet, other studies have not found any effects on weight .
- **Help treat hepatitis C.** One test-tube study noted that adding glycyrrhizin to a standard hepatitis C treatment significantly reduced the virus's spread. While promising, these results have not been confirmed in humans.

Potential side effects and precautions

The Food and Drug Administration (FDA) has deemed licorice root to be generally recognized as safe for use in foods .

However, the FDA does not currently evaluate or verify supplements for purity, effectiveness, or accuracy of ingredient labeling.

Additionally, the short-term use of licorice root supplements and teas is widely considered safe. However, large doses may produce adverse effects, and individuals with certain health conditions may wish to avoid it.

Licorice root overdose

Both chronic use and large doses of licorice root products may lead to glycyrrhizin accumulation in your body.

Elevated levels of glycyrrhizin have been shown to cause an abnormal increase in [the stress hormone cortisol](#), which may cause imbalances in your fluid and electrolyte levels .

As a result, chronic and large doses of licorice root products may trigger several dangerous symptoms, including :

- low potassium levels
- high blood pressure
- muscle weakness
- abnormal heart rhythms

While rare, licorice poisoning can occur. It may result in kidney failure, congestive heart failure, or excess fluid accumulation in the lungs (pulmonary edema) .

Thus, individuals with high blood pressure, congestive heart failure, [kidney disease](#), or low potassium levels are encouraged to avoid glycyrrhizin-containing licorice products altogether.

Pregnancy and breastfeeding

Consuming lots of licorice — and glycyrrhizin in particular — during pregnancy may negatively affect your baby's brain development.

In one study, children born to mothers who ate large amounts of glycyrrhizin-containing licorice products during pregnancy were more likely to have [brain impairments](#) later in life .



Therefore, [pregnant women](#) should avoid licorice supplements and limit their intake of licorice in foods and beverages.

Due to a lack of research, children and breastfeeding women should also avoid licorice products.

Drug interactions

Licorice root has been shown to interact with several medications, including :

- blood pressure medications
- [blood thinners](#)
- cholesterol lowering medications, including statins
- [diuretics](#)
- estrogen-based contraceptives
- nonsteroidal anti-inflammatory drugs (NSAIDs)

People taking any of these medications should avoid licorice root products unless their healthcare provider instructs otherwise.

Dosage and forms of licorice root

As a supplement, licorice root extract comes in several forms, including capsules, powders, [tinctures](#), topical gels, and teas. The root itself can also be purchased either fresh or dried.

There's currently no standard dosage recommendation. However, the World Health Organization (WHO) and European Scientific Committee of Food (SCF) both recommend limiting glycyrrhizin intake to no more than 100 mg per day.

Notably, those who eat large amounts of licorice products may be getting more than this amount.

Furthermore, as products don't always indicate the amount of glycyrrhizin, it can be difficult to identify a safe amount. As a result, it's important to discuss a safe and effective dose with your healthcare provider.

Another option is to look for deglycyrrhized licorice (DGL) powders or capsules.

These supplements are free of glycyrrhizin, which is responsible for most of licorice's side effects. Still, as this compound also contributes numerous benefits, it's unclear whether DGL products have the same positive health effects.

