

**NEW PRODUCT**

# ThorneVet Kidney Support Formula

**ThorneVet's Kidney Support Formula** is designed to promote optimal kidney function in dogs and cats. This synergistic blend of eight potent ingredients promotes healthy blood flow to the kidneys — which optimizes the kidney's ability to filter blood through the kidneys, protects against oxidative stress on kidney tissue, and aids in the removal of toxins to optimize the kidney's filtration burden.

## Key Kidney Support Features

- Prepared Rehmannia Root (Shu Di Huang)** and **Astragalus Root (Huang Qi)**: Both of these traditional Chinese herbs promote good kidney function by enhancing blood flow to the kidneys and by reducing oxidative stress on kidney tissue.
- Nettle Seed**: Nettle seed is well-known for its trophorestorative activity — which means it promotes both the repair and the regeneration of kidney cells — thus helping to maintain optimal kidney function.
- Reishi Mushroom** and **Cordyceps Mushroom**: These two organic, hot water-extracted mushrooms protect and nourish the kidneys, thus supporting optimal kidney function.
- Coenzyme Q10** and **Astaxanthin**: These two powerful antioxidants protect the kidneys from damage from oxidative stress.
- Chitosan**: Reduces oxidative stress, protects against fibrous tissue build-up in kidney tissue, and binds excess phosphorous — all of which reduces the burden on kidney function.

## Introduction

Kidney disease can be a common condition in companion animals, especially as they age. In companion animals – just like in humans – the kidney’s basic function is to filter waste from the blood, while also maintaining a healthy fluid and electrolyte balance in the body. And – just like in humans – dogs and cats have two kidneys. However, various adverse conditions can predispose a pet to kidney disease, even at a young age. When the kidney’s filtration efficiency declines, toxins can accumulate, and a pet will begin to exhibit symptoms such as loss of appetite, weight loss, vomiting, lethargy, and depression. Unlike the liver, the kidney has only a limited regenerative capability, which can result in an acute or chronic injury to the kidney eventually becoming potentially irreversible.

Maintaining good hydration, feeding a species-appropriate diet, and supplementing with botanical extracts and targeted nutrients that promote optimal blood flow to the kidneys, reduce inflammation in the kidneys, and protect against oxidative damage can preserve healthy kidney function. Comprehensive kidney support can improve both the quality of life and the health and wellness of the pet who is experiencing kidney insufficiency or kidney disease.

## Botanical Ingredients – 5

### **Astragalus Root (*Astragalus membranaceus*)**

**Astragalus root (Huang Qi)** has what is known as an immuno-modulatory effect – it helps mitigate the impact of autoimmune diseases, like glomerulonephritis, on kidney function.<sup>1</sup> Studies show that **astragalus root** can protect against damage to the kidneys, most likely because of **astragalus’s** antioxidative effects and **astragalus’s** ability to inhibit the activity of angiotensin-converting enzyme – two beneficial effects that can reduce hypertension and proteinuria.<sup>2</sup>

### **Cordyceps Mushroom (*Cordyceps sinensis*)**

The **cordyceps mushroom** has a long history of use in cultures that rely on traditional medicine for improving energy, increasing stamina, and supporting organ function, including the kidneys. In support of what traditional medicine has known for centuries, recent clinical studies suggest that **cordyceps mushroom extract** can enhance kidney health by promoting healthy immune function, maintaining a normal inflammatory response, and supporting optimal blood flow to the kidneys.<sup>3</sup>

### **Nettle Seed (*Urtica dioica*)**

The **seeds of the nettle plant** have long been identified as being an effective trophorestorative herb for the kidneys – because of **nettle seed’s** ability to promote both the repair and the regeneration of kidney cells. The existence of **nettle seed’s** trophorestorative activity on the kidneys was championed a generation ago by Dr. David Winston, an internationally known ethnobotanist and a founder of the American Herbalists Guild. **Nettle seed’s** trophorestorative activity has been corroborated by case studies confirming its beneficial effect on lowering the level of creatinine in the kidneys.<sup>4</sup>

### **Prepared Rehmannia Root (*Rehmannia glutinosa*) – Shu Di Huang**

**Rehmannia root** has been widely used in Traditional Chinese Medicine for mitigating adverse kidney-related issues. The version of **rehmannia root** in **ThorneVet’s Kidney Support Formula** is the traditionally prepared **rehmannia root** called **Shu Di Huang**. The traditional way of preparing **rehmannia root** results in a more effective kidney tonic, and is in the form that has been used for several thousand years in traditional medicine formats for supporting kidney function. Studies indicate that **rehmannia root** can improve already healthy kidney function and, in the case of existing kidney injury, **rehmannia root** can slow the progression of adverse kidney conditions by helping to maintain normal inflammatory response pathways in the kidneys and by enhancing blood flow to the kidneys.<sup>5</sup>

### **Reishi Mushroom (*Ganoderma lucidum*)**

**Reishi** is a medicinal mushroom that is well-known for having many health-promoting benefits: it is immuno-protective, it is an adaptogenic, and it is an antioxidant. Studies have demonstrated that **reishi mushroom** has the ability to protect kidney tissue from oxidative damage and to ameliorate imbalanced inflammatory responses in the kidneys, thus supporting overall kidney health.<sup>6</sup>

## Antioxidants Ingredients – 2

### Coenzyme Q10 (CoQ10)

**Coenzyme Q10 (CoQ10)** is a potent antioxidant that can mitigate oxidative stress in various organs, including the kidneys. Studies suggest that **CoQ10** supplementation can improve already healthy kidney function, as well as slow the progression of existing adverse kidney health conditions.<sup>7</sup>

### Astaxanthin (*Haematococcus pluvialis*)

**Astaxanthin**, another powerful antioxidant, has been shown to reduce oxidative stress in the kidneys. Animal studies suggest that **astaxanthin** protects against injury to the kidneys by neutralizing free radicals and by reducing inflammation.<sup>8</sup> **Astaxanthin** has more natural antioxidant capacity than beta carotene, lycopene, and lutein. Due to **astaxanthin's** unique chemical structure, it acts as a scavenger of free radicals in the internal membrane layer of the cell, while simultaneously inhibiting oxidation on the outside surface of the cell membrane – effectively protecting both the inside and the outside of the cell membrane. **Kidney Support Formula** uses a superior form of **astaxanthin** – from **AstaReal**. **AstaReal's astaxanthin** is derived from the microalgae *Haematococcus pluvialis*, a fresh-water unicellular microalgae (like Chlorella and Spirulina); therefore, it is plant-based and vegetarian friendly. **AstaReal's astaxanthin** has been studied in more than 70 published clinical trials. An excellent description of **AstaReal's astaxanthin** and its many health benefits can be found at [astareal.com/en/astaxanthin](http://astareal.com/en/astaxanthin)

## One More Key Ingredient

### Chitosan

**Chitosan** is a natural copolymer of glucosamine and N-acetyl glucosamine – it is derived from the chitin that is obtained from the exoskeletons of marine crustaceans. In addition to reducing oxidative stress in the kidneys, **chitosan** has been shown to help the kidneys heal after kidney injury, illness, or disease, which, when left untreated, can otherwise lead to kidney fibrosis – the formation and build-up of fibrous tissue (similar to scar tissue) in the kidneys that can significantly decrease kidney function. **Chitosan** can also bind excess phosphorus in the kidneys – too much phosphorus can pull calcium from the bones, thus causing bone weakness and potentially dangerous calcium deposits. **Chitosan** supplementation is beneficial for pets with existing kidney disease, because an elevated level of phosphorus will worsen kidney damage.<sup>9</sup>

**ThorneVet's Kidney Support Formula is a comprehensive blend of nutrients designed to support optimal kidney function in dogs and cats. Kidney Support Formula stabilizes kidney health, protects against further kidney damage that might already exist, and enhances the quality of life for a pet who has kidney disease.**



### Kidney Support Formula

Synergistic ingredients recommended for promoting and supporting healthy kidney function in companion animals



Cats: 1/4-1/2 scoop 1-2 times daily



1 scoop per 25 pounds body weight 1-2 times daily

V995-P / 90 Scoops



GLUTEN FREE

#### PRODUCT FACTS

##### Active Ingredients per 2-cc Scoop:

Prepared rehmannia root ( <i>Rehmannia rubrosa</i> )	150 mg	Cordyceps mushroom extract ( <i>Cordyceps sinensis</i> ) (organic)	50 mg
Astragalus root ( <i>Astragalus membranaceus</i> ) (organic)	100 mg	Chitosan	50 mg
Nettle seed ( <i>Urtica dioica</i> )	100 mg	CoEnzyme Q10	25 mg
Reishi mushroom extract ( <i>Ganoderma lucidum</i> ) (organic)	50 mg	Astaxanthin (from AstaReal® Biomass)†	2 mg

Inactive Ingredients: Flaxseed powder, silicon dioxide.

## References

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