



RenoPat-D

Formula Monograph



RenoPat-D is composed of dietary supplements that support kidney and liver function, helping to improve the body’s detoxification processes. Components of this formula are hepatoprotective, helping improve antioxidant status, the binding of fats and improved bile flow and improved detoxification process in the liver. **RenoPat-D** also contains supplements that help improve kidney flow and detoxification.

Supplement Facts			
Serving Size: 4 capsules Servings Per Container: 30			
Ingredients	Amount Per Serving	% Daily Value	Formula Use(s)
Proprietary Blend	2150 mg	*	
Globe Artichoke (<i>Cynara scolymus</i>) leaf Standardized to 3% cynarin		*	<ul style="list-style-type: none"> • Antioxidant • Hepatoprotective • Choleric/Bile stimulating
Goldenrod (<i>Solidago virgaurea</i>) aerial parts 4:1 (w/w) extract		*	<ul style="list-style-type: none"> • Antioxidant • Diuretic • Helps improve kidney function
Alpha-lipoic acid (Mixed racemic)		*	<ul style="list-style-type: none"> • Antioxidant • AMP-K activation and insulin receptor activation
Shatavari (<i>Asparagus racemosus</i>) root Standardized to 50% saponins		*	<ul style="list-style-type: none"> • Antioxidant • Nephroprotective • Immune modulating • Cholesterol support
Dandelion (<i>Taraxacum officinale</i>) root 4:1 (w/w) extract		*	<ul style="list-style-type: none"> • Diuretic • Choleric

Milk thistle (<i>Silybum marianum</i>) seed 4:1 (w/w) extract		*	<ul style="list-style-type: none"> • Antioxidant; increases hepatic glutathione levels • Hepatoprotective • Enhances liver Phase I detoxification processes
* Daily value not established.			

Recommended Uses:

Helps support kidney and liver function, helping to improve the body’s detoxification processes.

Recommended Dosage:

1-2 capsules, 3 times daily.

Product Overview:

RenoPat-D contains nutrients that support detoxification processes through liver, kidney and gallbladder function. **RenoPat-D** helps protect the body from stored environmental intoxicants in fat tissue that can release during the weight loss process. With chronic exposure to environmental toxins, the liver and kidney’s detoxification capacities can be compromised. This can lead to glutathione depletion in the liver and an accumulation of toxins in the liver and kidneys, which can lead to imbalances in metabolism including: ¹

- Accelerated aging
- Insulin signaling problems ; type 2 diabetes
- Thyroid imbalances
- Sex hormone imbalances
- Gastrointestinal problems
- Musculoskeletal aches/pains
- Fatigue
- Weight gain
- Sleep problems
- Increased cortisol levels
- Reduced cognitive function; Alzheimer’s disease
- Impaired immune function
- Atherosclerosis and cardiovascular diseases
- Cancer

Environmental intoxicants can act as endocrine disruptors, interfering with the endocrine system and produce adverse developmental, reproductive, neurological, and immune effects in both humans and wildlife. A wide range of substances, both natural and man-made, are thought to cause endocrine disruption, including pharmaceuticals, dioxin and dioxin-like compounds, polychlorinated biphenyls, DDT and other pesticides, and plasticizers such as phthalates and bisphenol A (BPA).² Pesticide intoxication can lead to metabolic imbalances such as insulin resistance and low thyroid function.^{3,4} The plasticizer BPA is also known to increase the risks of insulin resistance.⁵

Low testosterone levels have been linked to excess belly fat and insulin resistance, and phthalates have been reported to interfere with or block testosterone function.⁶ Phthalates are commonly found in cosmetics and personal care items such as shampoos, and a recent study reported that approximately 75% of the United States population has measurable levels of phthalates in their bodies.⁷

Heavy metals, including lead, mercury, arsenic, and cadmium, are environmental toxicants known to impact numerous physiological systems, including the reproductive, hepatic, renal, and neuro-endocrine immune-systems.⁸ Chronic heavy metal exposure may lead to the up-regulation of inflammatory signaling pathways.⁹ Mercury, commonly found in dental amalgam fillings, can cause microglia activation and lead to localized flora disturbances and immune activation in the gut. This may increase inflammatory signaling and neuro-endocrine-immune imbalances, leading to neurodegenerative diseases like Alzheimer's disease.¹⁰ Similarly, chronic lead exposure can damage the neuro-endocrine-immune system, leading to inflammatory signaling.¹¹

According to the Centers for Disease Control (CDC), approximately half of the US population uses at least one prescription drug in any given month.¹² As many drugs need to be metabolized by the liver either in order to become therapeutically active or to be removed from the bloodstream, prescription drug use can lead to an increase in oxidative stress on the liver and the need for healthy detoxification pathways.

Also, the Western diet high in saturated fats and fructose, increases the incidence of nonalcoholic fatty liver disease (NAFLD), which can lead to insulin resistance and obesity and is recognized as the leading cause of chronic liver disease in adults and children.¹³

RenoPat-D if formulated to support all phases of detoxification processes in the liver, improves immunity and supports healthy kidney function in order to improve metabolic health.

Supporting Research:

Artichoke (*Cynara scolymus*)

Much of the health benefits of artichoke leaves have been attributed to the antioxidant effects.^{14, 15} For the liver, artichoke has been reported to have hepatoprotective effects.¹⁶ Artichoke supplements have been reported to lower blood cholesterol and triglyceride levels in humans and animals.^{17,18} Cynarin, found in globe artichoke, reportedly decreases the rate of cholesterol synthesis in the liver, enhances biliary excretion of cholesterol and increases conversion towards the bile acids (choleretic activity).¹⁹ Cholelithiasis and fatty liver disease share some important risk factors, such as central obesity, insulin resistance, and diabetes.²⁰

- Antioxidant
- Helps improve bile flow
- Aids in processing cholesterol

Alpha Lipoic Acid (ALA)

Alpha lipoic acid (ALA) is an essential cofactor for mitochondrial bioenergetic enzymes and functions as an antioxidant and anti-inflammatory agent.²¹ ALA helps improve glutathione levels.²² ALA is reported in laboratory animal studies to reduce the neurotoxic effects of heavy metal exposure, including lead, mercury and cadmium.^{23,24,25} It is also reported in clinical studies to improve insulin sensitivity, improve glycemic control and to help improve symptoms and incidence of neuropathies.^{26,27,28}

- Antioxidant; protects against glutathione depletion
- Supports detox enzyme function
- Reduces heavy metal toxicity
- Improves insulin sensitivity

Shatavari (*Asparagus racemosus*)

Shatavari is an herb used commonly in Ayurvedic medicine for a variety of conditions, including adaptogenic, antibacterial, anti-inflammatory, nephroprotective, immune modulation and antioxidant. An animal study found Shatavari to have antilithiatic effects, lending support to traditional uses for kidney health.²⁹

- Antioxidant
- Helps improve kidney function
- Immune health

Animal studies have reported that shatavari is capable of producing leucocytosis with neutrophilia and, furthermore, was able to prevent myelosuppression by reducing cyclophosphamide-induced leucopenia.³⁰ In a laboratory animal study, shatavari extracts showed significant up-regulation of Th1 (IL-2, IFN-g) and Th2 (IL-4) cytokines suggesting its mixed Th1/Th2 adjuvant activity.³¹

Laboratory studies have reported that Shatavari has antioxidant effects, improving nitric oxide status.^{32,33} Laboratory studies have reported that extracts of *Asparagus racemosus* decreased oxidative damage in the rat brain by increasing GPx (glutathione peroxidase) activity and GSH (glutathione) content and reducing membrane lipid peroxidation and protein carbonyl, thereby providing protective effects on chemically induced excitotoxicity.³⁴ Chemical excitotoxins in foods include monosodium glutamate (MSG), artificial dyes/colors and artificial sweeteners.

An extract of Shatavari has also been reported in a laboratory study to have cholesterol-reducing activity.³⁵ Inclusion of asparagus root powder in the diet of hypercholesterolemic rats resulted in a dose-dependant reduction in plasma and hepatic lipid profiles, increased fecal excretion of cholesterol, neutral sterol and bile acid along with increases in hepatic HMG-CoA reductase activity and bile acid content. The hepatic antioxidant status, including catalase, SOD and ascorbic acid levels, were also improved.

Milk thistle (*Silybum marianum*) seed

Milk thistle is one of the most important herbs for liver health. The active constituents (silymarins) of milk thistle are reported in laboratory and human studies to have hepatoprotective activity.^{36, 37, 38}

Silymarin's hepatoprotective effects are accomplished via several mechanisms including antioxidation, inhibition of lipid peroxidation, enhanced liver detoxification via inhibition of Phase I detoxification, enhanced glucuronidation, and protection of glutathione depletion and hepato-regenerative effects through an increase in protein synthesis in the liver.^{39,40} Silymarin has been demonstrated to increase glutathione content in the liver by more than 35 percent, increasing its antioxidant capacity.⁴¹

- Antioxidant; helps improve hepatic glutathione levels
- Hepatoprotective
- Improves Phase I liver detoxification
- May also help protect kidney function

Laboratory studies have also reported that silymarin exhibits several anti-inflammatory effects, including inhibition of leukotriene and prostaglandin synthesis, Kupffer cell inhibition, mast cell stabilization, and inhibition of neutrophil migration.^{42,43} Animal studies have also demonstrated silybin reduces the conversion of hepatic stellate cells into myofibroblasts, slowing or even reversing fibrosis.⁴⁴ A 2007 Cochrane Database System Review looked at 18 human trials in 1008 patients and found liver-related mortality was significantly reduced by milk thistle in all trials, but not in high-quality trials.⁴⁵

Milk thistle has also been reported in laboratory studies to be nephroprotective, protecting the kidneys against chemically induced renal cancer by its antioxidant, anti-inflammatory and anti-proliferative activities.⁴⁶

Milk thistle is reported to interact with the CYP3A isoenzyme, and may increase the levels of some medications, including midazolam (Versed).⁴⁷

Goldenrod (*Solidago virgaurea*) aerial parts

Goldenrod (*Solidago sp.*) is well known as a plant that blooms in the late summer and causes allergies in many individuals. But goldenrod has been used medicinally for centuries as an agent for kidney related conditions.⁴⁸ Goldenrod is reported to have

diuretic, antioxidant, antibacterial and cardioprotective properties in laboratory studies.^{49,50,51} Although lacking in human clinical studies, the German Commission E (America's equivalent to the United States Pharmacopoeia) lists European goldenrod (*Solidago virgaurea*) as an agent for kidney and bladder disorders, including kidney stones, and goldenrod is generally accepted in Europe to help treat these conditions.

- Diuretic properties
- Helps with kidney and urinary tract problems

Dandelion (*Taraxacum officinale*) root

Dandelion has been used as a diuretic and “tonic” in traditional medicines for centuries.⁵² Dandelion root has reported antioxidant and choleric effects in laboratory animal studies, and has been reported to improve gastrointestinal microfloral balance (bifidogenic).^{53,54}

- Helps improve liver and kidney function and detoxification

Toxicity, Contraindications, or Side Effects: There are no known toxicities or side effects from taking components of *RenoPat-D*. Due to the diuretic effects of several herbs in *RenoPat-D*, it is advised to take a quality multiple vitamin/mineral product to replenish nutrients when taking this supplement. If you have a preexisting medical condition and/or are taking prescription or non-prescription medications, talk with your doctor or pharmacist before taking any dietary supplement.

DISCLAIMER: Statements made are for educational purposes and have not been evaluated by the US Food and Drug Administration. They are not intended to diagnose, treat, cure, or prevent any disease.

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