

# Kidney Korrekt™



A formulary blend of botanicals to support kidney function

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**Kidney Korrekt™ is designed to help improve renal function and reduce kidney damage due to:**

- ▶ Diabetes
- ▶ Hypertension
- ▶ Glomerulonephritis
- ▶ Nephropathy caused by medications and other nephrotoxic substances

Kidney Korrekt™ is a comprehensive kidney support formula whose ingredients have been shown to improve kidney function and markers of kidney damage, and decrease tissue damage due to various pathological processes. The three primary causes of kidney damage and end-stage kidney disease are diabetic nephropathy, hypertension and glomerulonephritis.

Kidney damage, which is a common downstream effect of diabetes, arises from chronically high blood sugar and the formation of advanced glycation end-products (AGEs). Glycation is a chemical reaction that takes place between

amino acids and a reducing sugar, and induces the formation of irreversible cross-links in structural proteins, causing damage to the very small blood vessels in the kidneys' filtration area, called the glomeruli. A vicious cycle is initiated in which a decrease in renal function and reduced clearance increases plasma AGE concentrations. This sets the stage for increased AGE formation, with harmful consequences for the kidneys' overall survival. Glomerulosclerosis is a type of kidney damage caused by scarring of these small, delicate blood vessels, which can leave the kidneys unable to filter waste effectively, ultimately leading to kidney failure.

High blood pressure, which affects up to 60% of those with diabetes, is another common cause of kidney damage and eventual kidney failure. It can further exacerbate kidney damage by adding to the stress on the glomeruli.

Glomerulonephritis is a renal condition characterized by inflammation of the glomeruli. Causes are varied and can range from infectious states to systemic disorders, drug toxicity and diabetes. Once inflamed, the glomeruli become leaky and unable filter waste properly, which allows protein and blood to pass into the urine.

## Highlights

**Champignon** is an extract of the *Agaricus bisporus* mushroom, also known as the white or button mushroom. In human studies, champignon was shown to increase creatinine clearance and arrest the progression of renal failure.<sup>1</sup>

**Cordyceps sinensis** is a fungus that has been used in traditional Chinese medicine for thousands of years. Cordyceps has been shown to improve lab markers of renal dysfunction, including reducing BUN and creatinine levels, while improving kidney function in human test subjects. Cordyceps also decreased mortality in animal models of chronic kidney failure and appears to be protective of the kidneys as it decreases renal necrotic tissue and reduces the expression of immunoglobulin proteins ICAM-1 and VCAM-1, indicating anti-inflammatory properties.<sup>2-5</sup>

**Poria cocos**, also known in Chinese as *fu ling*, is another fungus used in traditional Chinese medicine. In animal models of anti-glomerular basement membrane nephritis, a rare autoimmune disorder of the kidneys, the fungus was found to prevent urinary protein secretion and reduce the degree of histopathological changes associated with renal tissue damage in the test animals.<sup>6</sup>

## Supplement Facts

Serving Size 2 capsules	
Servings Per Container 30	
Amount Per Serving	% Daily Value
Champignon Extract (Champex®) ( <i>Agaricus bisporus</i> )(fruiting body)	500 mg *
Cordyceps (CordycepsPrime™) ( <i>Cordyceps sinensis</i> )(mycelia) [standardized to contain 8% cordycepic acid and 0.28% adenosine](from soy)	300 mg *
Poria Extract ( <i>Poria cocos</i> )(sclerotium)	250 mg *
American Ginseng ( <i>Panax quinquefolius</i> (root) [standardized to contain 5% ginsenosides])	200 mg *
Astragalus ( <i>Astragalus membranaceus</i> )(root)	150 mg *
*Daily Value not established.	

**Other Ingredients:** Cellulose (capsule), microcrystalline cellulose, dicalcium phosphate, vegetable stearate, silicon dioxide.



**Panax quinquefolius**, better known as American ginseng (AG), is protective of kidney physiology and function in diabetic nephropathy. Administration of AG increased creatinine clearance and decreased elevated urinary protein levels in a rat model of this condition. Additionally, high serum glucose and AGE concentrations in the diabetic rats decreased after treatment with AG, which suggests that not only does AG facilitate improved kidney function, but by contributing to lower blood glucose and AGE formation, it may also help to prevent or reduce structural damage to the kidneys from occurring in the first place.<sup>7</sup> Studies in humans indicate that AG taken before or during a glucose challenge significantly reduces the area under the curve for blood glucose, which may help moderate the downstream effects of chronically elevated blood sugar.<sup>8</sup> Ginseng is safe and well-tolerated at relatively high doses. In type 2 diabetics, compared to placebo, twelve weeks of AG supplementation at 3g/day (1000mg/meal) resulted in no adverse changes to

measures of safety—such as hemostatic function and the liver enzymes AST and ALT.<sup>9</sup> With hypertension being a major contributing factor in damaging the delicate blood vessels in the kidneys, it is noteworthy that, compared to placebo, AG (3g/day) led to significant reductions in arterial stiffness and systolic blood pressure in hypertensive type 2 diabetics.<sup>10</sup>

**Astragalus root** has been used in traditional Chinese medicine for over 2000 years for various renal disorders, including glomerulonephritis and nephropathy. Astragalus has repeatedly been shown to help protect the kidney and retard the progression of renal fibrosis. It also helps improve markers of kidney function caused by various renal conditions through its anti-inflammatory effects by down-regulating the expression of two pro-inflammatory cytokines, NF-kappaB and MCP-1.<sup>11</sup> In human patients, astragalus lowered various markers of decreased kidney function, including BUN, creatinine and serum albumin.<sup>12</sup> Astragalus also demonstrated the ability to reduce fasting blood glucose levels and albuminuria in animal models of diabetic nephropathy.<sup>13,14</sup>

## MECHANISMS OF ACITON

- ▶ **Improve laboratory markers of kidney function:** Champignon, cordyceps, poria, red ginseng
- ▶ **Reduce kidney fibrosis:** Cordyceps, poria, red ginseng, astragalus
- ▶ **Reduce kidney damage due to effects of diabetes:** Cordyceps, red ginseng, astragalus
- ▶ **Antioxidative properties:** Red ginseng
- ▶ **Anti-inflammatory properties:** Cordyceps, red ginseng
- ▶ **Antihypertensive:** Cordyceps
- ▶ **Chemoprotective:** Cordyceps, red ginseng

## Recommended Use

- As a dietary supplement, take two capsules per day, or as directed by a health care practitioner.

*For a list of references cited in this document, please visit:*

<http://www.ncbi.nlm.nih.gov/sites/myncbi/collections/public/12YFITKOyKJOYxDijXBjHBh5T/>

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