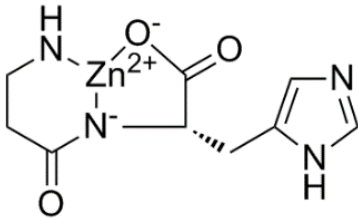


## GI Guard™

### TECHNICAL SUMMARY

GI Guard™ is a formulation for GI health using the clinically validated ingredient, PepZin GI®, a proprietary form of zinc complexed with carnosine.\* PepZin GI® is slowly absorbed in the stomach, where it promotes normal mucous secretion, combats free radicals, and supports stable cell membranes.\* PepZin GI® thereby helps to maintain the integrity of the stomach lining and its proper immune responses to the typically harsh gastric environment.\* Numerous clinical studies have demonstrated that PepZin GI® can help to support GI health and promote gastric comfort.\*

#### Structure formula:



**Chemical name:** Zinc-L-Carnosine: zinc N-(3-aminopropionyl) histidine

**Allergen and Additive Disclosure:** Not manufactured with wheat, gluten, soy, milk, egg, fish, shellfish or tree nut ingredients. Produced in a GMP facility that processes other ingredients containing these allergens.

**Delivery Form:** Tablet

### ROLE AS NUTRIENT/FUNCTION

Zinc is known for its stabilizing effect on gastric mucosa.\* This effect is enhanced by slow dissociation of zinc-L-carnosine (PepZin GI®) which causes zinc to remain within the GI tract long enough to bind to the GI epithelium, while L-carnosine simultaneously helps to neutralize free-radicals in and around the intestinal mucosa.\*

### NATUROKINETICS®

**Liberation:** Disintegration of the tablet is measured in water using a USP testing method with disintegration between zero and 60 minutes.

**Absorption:** Due to its slow dissociation, absorption of zinc from zinc-L-carnosine is significantly delayed, which allows for adhesion of zinc ions to gastric epithelium. Elevated gastric Zn concentration is maintained for a significantly longer period of time after zinc-L-carnosine compared to zinc sulfate administration (Figure 1). The amount of Zn absorbed from zinc-L-carnosine is estimated to be 11%.

**Distribution:** Absorbed zinc and L-carnosine are distributed to the liver, kidney, prostate; and to a lesser extent to the testes and brain, where zinc uptake is tightly regulated by the blood-brain barrier.

**Metabolism:** L-carnosine is metabolized via hydrolysis to β-alanine and L-histidine by carnosinase in the blood, liver, and kidneys.

**Elimination:** Following a single administration of radiolabeled zinc-L-carnosine, 85% of <sup>65</sup>Zn was eliminated with feces and 0.3% with urine.

## Supplement Facts

Serving Size 1 Tablet

	Amount Per Serving	% Daily Value
Calcium (from 206 mg Calcium Carbonate)	70 mg	5%
Zinc (from 37.5 mg PepZin GI®)	8 mg	73%
PepZin GI® (Zinc-L-Carnosine Complex)	37.5 mg	†
Mastic Gum Powder ( <i>Pistacia lentiscus</i> ) (Sap)	100 mg	†
Slippery Elm ( <i>Ulmus rubra</i> ) (Bark)	100 mg	†

† Daily Value not established.

Other ingredients: Microcrystalline Cellulose, Croscarmellose Sodium, Stearic Acid (vegetable source), Vegetarian Coating, Silicon Dioxide and Magnesium Stearate (vegetable source).

- Supports Gastric Health and Comfort\*
- With PepZin GI®

**SUGGESTED USAGE:** Take 1 tablet twice daily, or as directed by your healthcare practitioner.

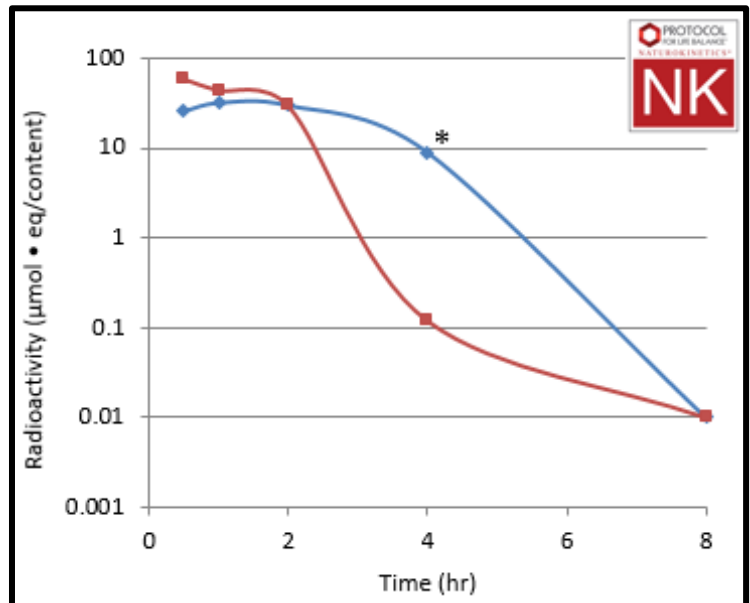


Fig 1: Time course of total mean radioactivity in gastric contents after oral administration of zinc in the form of PepZin GI™ or zinc sulfate (• <sup>65</sup>Zn PepZin GI®, ■ <sup>65</sup>ZnSO<sub>4</sub>; \*P < 0.05).

### CLINICAL VALIDATION

- **Digestive support and zinc L-carnosine:** In a randomized crossover trial with healthy volunteers receiving a compound known to alter gut permeability and 37.5 mg zinc L-carnosine twice daily or a placebo for five days, no alteration of gut permeability was observed in individuals in the zinc L-carnosine group. However, under these experimental conditions, in the placebo group, an increase in gut permeability was observed.\* These experimental results suggest that

\*These statements have not been evaluated by the Food and Drug Administration. This product is not intended to diagnose, treat, cure, or prevent any disease.

zinc L-carnosine contributes to preserving the integrity of the gut-barrier function when it is subjected to an external aggression.\*

### **SAFETY INFORMATION**

**Tolerability:** Zinc and carnosine are generally well tolerated. Zinc may cause gastrointestinal disturbances when taken at high amounts.

**Contraindications:** None known.

### **INTERACTIONS**

**Drug Interactions:** Zinc has been shown to decrease the absorption of cisplatin, penicillamine, quinolone, and tetracycline antibiotics due to forming insoluble complexes with these medications in the gastrointestinal tract and thus reducing their systemic availability.

**Supplement Interactions:** Zinc has been shown to decrease the absorption of cisplatin, penicillamine, quinolone, and tetracycline antibiotics due to forming insoluble complexes with these medications in the gastrointestinal tract and thus reducing their systemic availability.

**Interaction with Lab Tests:** Supplementation with elemental zinc 50 mg/day has been shown to raise HbA1C in type 1 diabetics.

### **STORAGE**

Store in a cool dry place.