

GSH FORMULA

(OPTIMAL GLUTATHIONE PRODUCING COMPLEX)

ACTIVE INGREDIENTS:

- 1. N-Acetyl Cysteine Ethyl Ester
- 2. L-Glutamine
- 3. N-Acetyl-D-Glucosamine
- 4. Quercetin
- 5. Milk Thistle Extract (80% Silymarin)
- 6. Alpha Lipoic Acid
- 7. Vitamin C (*Calcium Ascorbate*)
- 8. Cordyceps Militaris
- 9. Glycine
- 10. Zinc Citrate
- 11. Vitamin E (*dl-Alpha Tocopherol*)
- 12. Vitamin B Complex
- 13. Selenium
- 14. Elderberry Extract (5% Flavones)
- 15. Blueberry
- 16. Japanese Knotweed Root (50% Trans-Resveratrol)

EVIDENCE BASED RESEARCH:

1. N-Acetyl-L-Cysteine Ethyl Ester (NACET):

• Novel compound or "pro-drug" for NAC or N-Acetyl-L-Cysteine that increases the bioavailability up to 65%, whereas NAC's bioavailability is less than 10% orally. [1],[2]

- Key compound and the rate limiting step in the endogenous synthesis of Glutathione in the human body. [1],[2],[5]
- Has been shown in clinical trials to help boost Glutathione levels significantly. [1],[2]
- Serves as a potent antioxidant in the human body and ameliorates influenza symptoms while increasing the immune response. [1],[2]
- Helps regenerate or repurpose Vitamin C and E once they have been "used."
- The only form of a cysteine molecule that actually crosses the blood brain barrier in high amounts. [1],[2]
- Supports and protects specific neurons in the brain and may help overall cognition. [5],[6]
- Has been shown to be one of the only producers of Hydrogen Sulfide in the body, a key cellular messenger that modulates inflammation and insulin resistance. [1],[6]

2. L-Glutamine:

$$H_2N$$
 OH OH

- Key precursor molecule used in Glutathione synthesis in the human body. [15]
- Serves as a key source of energy during the production of new Hematopoetic Stem Cells in vivo. [15]

3. N Acetyl D-Glucosamine:

- A monosaccharide and derivative of glucose made from glucosamine and acetic acid.
- Also plays an important role as a source of energy used during the metabolism of new stem cells.

4. Quercetin:

- Closely related to Resveratrol, Quercetin serves as a potent antioxidant and free radical scavenger in the body. [4]
- Has been shown in clinical trials to replenish and increase levels of endogenous antioxidants, including Glutathione. [4],[7],[8]
- Helps modulate and enhance glutathione related defenses in the liver. [4],[7],[8]

5. Milk Thistle Extract (80% Silymarin):

- Contains the active compound Silymarin.
- Has been shown in clinical trials to increase endogenous levels of Glutathione by 35% in humans. [9]
- Serves as a potent liver detoxifying agent and protective compound when exposed to toxic substances. [10],[11]
- Increases levels of super oxide dismutase and other potent antioxidants. [10],[11]

6. Alpha Lipoic Acid:

- Increases several key antioxidant enzymes in the body.
- Has been shown in clinical trials to increase production of endogenous Glutathione. [12],[13]

- Also improves cysteine utilization during de novo Glutathione synthesis, increasing overall levels of antioxidants. [12],[13]
- Helps Glutathione replenish or "recharge" other antioxidants in the body like Vitamin C and E.

7. Vitamin C (Calcium Ascorbate):

- One of the main exogenous antioxidants humans utilize as an antioxidant.
- Has been shown in trials to replenish "used" Glutathione in the body, increasing total levels. [14]

8. Cordyceps:

- Serves as a potent immunomodulatory in the body.
- Has been shown to reduce viral load during specific viral infections. [3]
- Also works as potent liver detoxifying agent and cellular protection compound against toxic substances. [3]

9. Glycine:

- Functions as an important substrate in the synthesis of new Glutathione in the body. [21]
- Serves in several biochemical and enzymatic pathways in the body that protect against free-radical damage and oxidation. [21]

• As been shown to improve insulin sensitivity, overall body composition and strength and dyslipidemia. [20]

10. Zinc Citrate:

- Has been shown help enhance the immune system.
- Ameliorates the clinical conditions or symptoms viral infections. [30,[31]

11. Vitamin E (dl-Alpha Tocopherol):

- Potent antioxidant with the body.
- Helps reduce the development of certain cancers, premature aging and arthritis. [28]
- Inhibits the product of prostaglandins which cause inflammation and heart disease. [29]
- Boosts the immune system and helps repair tissues. [29]

12. Vitamin B Complex:

- Contains Vitamins: B6, B7, B9, and B12. [22],[23],[24],[25],[26],[27]
- Has been shown to reduce levels of homocysteine and other inflammatory molecules in the body the contribute to premature aging and chronic disease.
- Prevents oxidative damage to delicate tissues.
- Helps support energy levels and recovery from fatigue.

13. Selenium:

- Serves as one of the key molecules in the production of Glutathione. [19]
- Has been shown to improve the overall activity of Glutathione in the human body. [18]
- Provides some of the key substrates to promote healthy mitochondrial function.

14. Elderberry Extract (5% Flavones):

- Rich in anthocyanins and plant polyphenols that serve as potent antioxidants.
- Has been shown to ameliorate or reduce the symptoms and their duration of colds and upper respiratory infections. [32],[33]

15. Blueberry:

- Has been shown to be a potent antioxidant and anti-inflammatory.
- Helps promote cardiovascular health and reduce the risk of developing major chronic illnesses by modulating blood sugar and insulin resistance. [34],[35]

16. Japanese Knotweed Root (50% Trans-Resveratrol):

- Is a potent stilbenoid or polyphenol that has been shown in multiple trials to play a beneficial role in the prevention and progression of many inflammatory diseases. [36]
- Regulates the immune system by helping the body control inflammatory cytokines. [36]
- May help ameliorate the progression of certain autoimmune diseases. [37]

SOURCES

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