

## Glutathione

Master Antioxidant for Cellular Defense and Detox Overall Effectiveness: 8/10 Impact on Mitochondria: 9/10

## **Supplement Essentials**

#### **Benefits:**

- Protects cells from oxidative stress and damage.
- Supports liver detoxification and immune system function.
- Promotes healthy skin by reducing inflammation and improving elasticity.
- Enhances mitochondrial function for better energy production.

#### **Recommended Dose:**

 Adults: 250-1,000 mg daily, typically in divided doses.

## **Upper Limit:**

 Generally safe up to 2,000 mg daily. Higher doses may be unnecessary or less effective due to limited absorption.

# Parts of the Human Anatomy That Benefit:

• Liver, immune system, brain, skin, and mitochondria.

## **Usage Guidelines**

## Time of Day to Take:

 Morning or afternoon. Avoid taking late at night, as it may affect sleep in some individuals.

#### With or Without Food:

• Best taken on an empty stomach for optimal absorption.

#### **Solubility:**

 Water-soluble; works effectively when delivered in liposomal form for better bioavailability.

#### **Bioavailability:**

 Naturally low when taken orally; liposomal and acetylated forms improve absorption significantly.

#### Interactions & Contraindications:

 May interact with chemotherapy agents; consult a healthcare provider if undergoing treatment.
 Safe for most, but individuals with sulfur allergies should exercise caution.

## **Insights**

## **Target Audience:**

 Individuals seeking detox support, anti-aging benefits, or immune enhancement.
 Suitable for athletes and those exposed to high levels of toxins.

#### **Side Effects:**

 Rare; mild gastrointestinal discomfort or rash in some sensitive individuals.

#### **Duration of Use:**

 Effective for both short-term detox protocols and long-term antioxidant support.

#### **Cost and Accessibility:**

 \$20-\$60 per bottle (30-60 capsules); liposomal forms are more expensive but highly effective.

#### Flavor or Texture:

 Liposomal liquids may have a mild metallic or sulfuric taste; capsules are tasteless.

### **Scientific Evidence:**

• Backed by studies for its antioxidant and detoxifying effects, as well as benefits for chronic illnesses such as Parkinson's and autoimmune disorders.

#### Sustainability and Ethics:

• Most glutathione supplements are synthetically derived; check for third-party testing and certifications.

## **Recent Research and Trends:**

• Increasing use in skincare for its brightening and anti-inflammatory properties. Liposomal glutathione is gaining popularity for superior bioavailability.

**Disclaimer:** Always consult a healthcare provider before starting any new supplement. For more information, visit reputable <u>supplement resources</u>.