

## **Essential Amino Acids**

L-Leucine, L-Isoleucine, L-Valine, L-Lysine HCI, L-Threonine, L-Phenylalanine, L-Methionine, L-Histidine HCI, L-Tryptophan

The building blocks of protein, essential for life and recovery

Overall Effectiveness: 9/10 Impact on Mitochondria: 8/10

Supplement Essentials	Usage Guidelines	Insights
Benefits:	Time of Day to Take:	Target Audience:
<ul> <li>Supports muscle repair and growth.</li> <li>Enhances exercise recovery and endurance.</li> <li>Aids in hormone production and enzyme function.</li> <li>Recommended Dose:</li> <li>Adults: 10–20 grams per day, depending on activity level.</li> <li>Athletes: Up to 30 grams, split into multiple servings.</li> <li>Upper Limit:</li> <li>No established toxic dose but exceeding 50 grams/day may cause digestive discomfort.</li> <li>Parts of the Human Anatomy</li> <li>That Benefit:</li> <li>Muscles, connective tissues, and skin.</li> <li>Brain and nervous system.</li> <li>Digestive organs via improved enzyme activity.</li> </ul>	<ul> <li>Pre- or post-workout for optimal muscle repair.</li> <li>With or Without Food:</li> <li>Best taken on an empty stomach for quick absorption.</li> <li>Solubility:</li> <li>Water-soluble, easily mixed in water or beverages.</li> <li>Bioavailability:</li> <li>Highly bioavailable when consumed as free-form amino acids.</li> <li>Interactions &amp; Contraindications:</li> <li>Avoid combining with high-dose single amino acids (e.g., lysine or tryptophan supplements).</li> <li>Consult a doctor if you have liver or kidney conditions.</li> </ul>	<ul> <li>Athletes, bodybuilders, and individuals recovering from surgery or illness.</li> <li>Side Effects:         <ul> <li>May cause nausea or diarrhea in high doses.</li> </ul> </li> <li>Duration of Use:         <ul> <li>Safe for long-term daily use as part of a balanced diet.</li> </ul> </li> <li>Cost and Accessibility:         <ul> <li>\$20-\$40 per month; available in powders, capsules, and drinks.</li> </ul> </li> <li>Flavor or Texture:         <ul> <li>Powders are often unflavored or mildly sweet, with a smooth texture when mixed.</li> </ul> </li> </ul>

## **Scientific Evidence:**

• Backed by studies demonstrating improved muscle protein synthesis and reduced fatigue.

## **Sustainability and Ethics:**

Many brands use vegan and sustainably sourced ingredients.

## **Recent Research and Trends:**

• Emerging focus on ratios of branched-chain amino acids (BCAAs) within EAA blends.

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