

# Medical Fact Check Report

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## Generated:

2025-12-10 11:57:49

**Analysis System:** MedicalFactChecker (Independent Bio-Investigator)

**Analysis Cost:** \$0.2546

**Duration:** 346.7s

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## Subject

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### Topic:

supplementation for muscle gain with less risks

**Analysis Started:** 2025-12-10 11:52:02

**Phases Completed:** 3

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## Analysis Pipeline

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### Phase 1: Conflict Scan

#### Timestamp:

2025-12-10 11:53:05

**User Choice:** Both

#### Key Findings:

- Official Narrative: **Position Statement:**
- **Protein sufficiency through diet alone** (0.8-1.6g/kg bodyweight)
- **Creatine monohydrate** as the only supplement with robust evidence (ISSN position: safe and effective)...

- Counter Narrative: **Core Thesis:**

#### **A. Protein Requirements Are Systematically Underestimated**

- Morton et al. (2018) meta-analysis in *British Journal of Sports Medicine* found 1.6g/kg is the lower threshold for tra...

#### **Token Usage:**

3145 tokens

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## **Phase 2: Evidence Stress Test**

#### **Timestamp:**

2025-12-10 11:54:27

**User Choice:** Proceed

#### **Key Findings:**

- Industry Funded Studies: **Creatine Research:**
- **Glanbia (Optimum Nutrition), Iovate (MuscleTech)** fund protein timing studies
- **Red flag:** 2013-2017 studies overstated anabolic window importance
- **Concern:** Small s...
- Independent Research: **Epicatechin:**

#### **Morton et al. (2018) - Protein Meta-Analysis:**

- **Funding:** Canadian Institutes of Health Research (government)
- **Sample:** 49 studies, 1,863 participants
- **Finding:** 1.6g/k...
- Methodology Quality: 1. **Protein recommendations remain anchored to 1980s nitrogen balance studies** despite modern evidence showing

2.0-2.5g/kg benefits in trained individuals

## 2. **Micronutrient deficiencies (magnesium,...**

- **Anecdotal Signals:** - Verdict: **Cheap, safe, mechanistically sound; warrants trial**

8. Boron (TESTOSTERONE OPTIMIZATION)

- Naghii et al. (2011, *Journal of Trace Elements in Medicine and Biology*):

- **10mg/day...**

- **Time Weighted Evidence:** - **Taurine deficiency accelerates aging in mice**

- **Supplementation extended lifespan 10-12%**

- Human data: **Observational only (low taurine = higher mortality)**

- Mechanism\*\*: Osmolyte, antioxi...

### **Token Usage:**

6685 tokens

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## **Phase 3: Synthesis Menu**

### **Timestamp:**

2025-12-10 11:56:16

**User Choice:** P

### **Key Findings:**

- Biological Truth: ### **The Ancestral Mismatch Framework**

Modern muscle-building occurs in a biochemically hostile environment our genes never encountered:

### **Environmental Stressors (Unaccounted in Official Guidelines...)**

- **Industry Bias:** - Distortion: **Overemphasis on whey timing ("anabolic window")**

- **2013-2017 studies (Glanbia-funded) claimed 30-min post-workout window**

D. Pharmaceutical Suppression of Nutraceuticals

- Patt...
  - Grey Zone: ### **Tier 3A: Strong Mechanism, Weak Human Data**
- 1. Boron (6-9mg/day)**
- **Evidence:** Naghii et al. (2011): 28% free testosterone increase in 1 week (n=8)
  - **Mechanism:** Inhibits SHBG, reduces...

### **Token Usage:**

7875 tokens

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## **Final Output**

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See the detailed output file for the complete analysis.

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### **Report Generated By:**

MedicalFactChecker

**Timestamp:** {datetime.now().isoformat()}

### **DISCLAIMER:**

This analysis is for research and educational purposes. It provides critical analysis of medical literature but does not constitute medical advice.

Always consult qualified healthcare professionals.