

# Re-thinking Protein Needs

*A growing body of research reveals that dietary protein intakes above minimum requirements are beneficial in maintaining muscle function and mobility and in the treatment of age-related diseases.*

by Dr. Donald K. Layman

The controversy about dietary needs for protein stems from current perceptions that protein intakes above minimum requirements have no benefit and may pose long-term health risks. These beliefs are largely based on assumptions and extrapolations with little foundation in nutrition science. Diets with increased protein improve adult health with benefits for treatment or prevention of obesity, type 2 diabetes, Metabolic Syndrome (MetS), osteoporosis, sarcopenia, and heart disease. Key findings leading to the re-thinking of protein needs are the discovery of increased need of adults for high quality protein, the role of the essential amino acid leucine in protecting skeletal muscle, and the importance of the right amounts of

protein at specific meals. Current perceptions are that protein is an expensive nutrient with limitations in the food supply that led to requirements based on cost/benefit measurements. This concept stems from commercial agriculture desire to maximize weight gain with the least expensive foodstuff. Animal feeding practices focus on providing cheap carbohydrates as the primary energy source and limiting dietary protein to the minimum amount to sustain growth. Even measures of protein quality are based on efficiency of growth (Protein Efficiency Ratio) and nitrogen balance (Net Protein Utilization). No other nutrient is evaluated based on efficiency of getting the largest effect for the least amount. For human health, the goal should be op-

timal health and not least cost.

## Emerging Roles

During the past decade, a growing body of research reveals that dietary protein intakes above minimum requirements are beneficial in maintaining muscle function and mobility and in the treatment of age-related diseases, particularly obesity, osteoporosis, and sarcopenia. The new research establishes health benefits and provides molecular evidence of numerous metabolic outcomes associated with protein intake or amino acid metabolism that are not reflected in the current Recommended Dietary Allowance (RDA). These outcomes include the unique metabolic role of the branched-chain amino acid leucine, stimulation of calorie expenditure (thermogenesis), control of hunger (satiety), and stabilizing blood

sugar (glycemic control). Part of the re-evaluation of protein needs comes from the realization that skeletal muscle is a critical factor for adult health. More adults over the age of 65 die from disability and associated hospitalization than from heart disease and cancer combined. Aging, limited physical activity, extended bed rest, and rapid weight loss are threats to muscle health. Loss of muscle mass and function limits mobility and reduces the metabolically active tissue of the body resulting in reduced capacity to burn calories, increased fat storage, and greater insulin resistance. Maintaining muscle health is critical for healthy aging.

Current protein requirements are established to prevent deficiencies and reflect a minimum need for protein. The RDA is defined as "the minimum daily needs for protein to

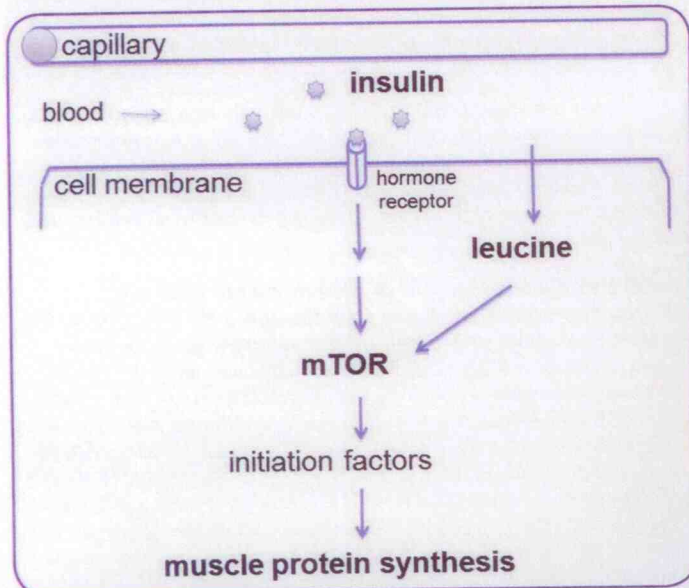


Figure 1: Integration of Insulin and Leucine Signals for Protein Synthesis



Ensure High Protein Shake with Homemade Vanilla Flavor (US) contains, "50% daily value of protein to help stay active and strong."

Source: Innova Market Insights

