Glutamine metabolism in old age

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Glutamine

Biochemistry, Physiology,
and Clinical Applications

Glutamine: Biochemistry, Physiology, and Clinical Applications describes the different functions of glutamine (Gln) in animals and humans. Gln is both a nutrient and a signaling molecule, and its functions go beyond those of a simple metabolic fuel or protein precursor. This book has gathered together, in an unbiased and critical manner, all the available evidence and research on Gln including pathology (neurological diseases, intestinal diseases, critical illness, and cancer), physiology (successful aging), catabolic states, immunity, and exercise. Special attention is given to the potential benefit of Gln in states of insulin resistance and the role of Gln as a "conditionally essential" amino acid.

Features

- Promotes the signaling role of Gln in autophagy, which is an emerging concept in aging due to the fact that its increase can favor longevity.
- Considers how a high concentration of Gln and its accumulation in plasma and in the brain can induce toxicity and lead to severe central nervous system diseases.
- Demonstrates how Gln supplementation is beneficial for the recovery of intestinal mucosal integrity and for intestinal diseases and aging.
- Discusses why Gln supplementation in catabolic states is only warranted in the event of hypoglutaminemia and the absence of renal or hepatic failure.
- Highlights how Gln, as a promising biomarker or even as a therapeutic target in cancer, could have an important role in effective anticancer strategies.
- Includes future directions of Gln research.

The contributors are either pioneers or experts in the area of Gln from all around the globe, including Australia, Brazil, Canada, China, Europe, and the United States. This book is a valuable source of information for nutrition scientists, medical doctors, sports scientists, food scientists, dietitians, and anyone interested in nutrition. It is also a valuable resource for students in these fields and will be an important addition to university libraries.

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