L-Glutamine Powder

Gastro-Intestinal Support

Kustom Wellness
Be Your Best
www.kustomwellness.net

DESCRIPTION

L-Glutamine Powder provides 4 grams of pure L-glutamine (U.S.P.) per teaspoon.

FUNCTIONS

The amino acid glutamine plays a key role in the metabolism, structure, and function of the entire gastro-intestinal (GI) tract and its extensive immune system. Glutamine is the most abundant amino acid found in blood, and is a vehicle for nitrogen transport. In muscle, lung and other tissues, glutamine is formed from glutamic acid and ammonia through amino acid breakdown. The GI tract, liver, and immune system use glutamine for the synthesis of nucleotides, proteins, and amino sugars. Glutamine also carries potentially toxic ammonia to the kidneys for excretion, which helps maintain normal acid-base balance.

Many clinical studies support the fact that dietary and endogenous glutamine is crucial in maintaining normal function of the entire gastrointestinal tract, including the liver and pancreas. Glutamine helps maintain normal intestinal permeability, mucosal cell regeneration and structure, especially during periods of physiological stress. The human intestinal tract removes as much as 12-13% of circulating blood glutamine in addition to the glutamine absorbed from dietary origin. Intestinal mucosal cells need glutamine as a nitrogen donor for the biosynthesis of a number of important compounds, including nucleotides needed for cell division, amino sugars for building the glycosaminoglycans of intestinal mucous, and many amino acids that are crucial for protein synthesis. During physiological stress, such as starvation, physical trauma, or surgery, the intestinal tract uses very large amounts of glutamine. This often results in a fall of blood glutamine, and skeletal muscle is broken down to supply more glutamine.

The immune cells of mucosa, mesentery and the liver depend on glutamine as a key nitrogen donor and energy source. During infections of intestinal origin, immune cells need more glutamine and the liver's glutamine consumption can rise about ten-fold. Just as in trauma or surgery, a strong immune response can result in lower blood glutamine levels and muscle wasting.

Many clinical studies support the fact that dietary glutamine is crucial in maintaining normal function of the entire gastrointestinal tract, including the liver and pancreas. Glutamine helps maintain normal intestinal permeability, mucosal cell regeneration, and structure. At the same time, glutamine supports normal immune function of the gastrointestinal tract and the liver.

INDICATIONS

L-Glutamine powder may be a useful dietary supplement for individuals wishing to support their gastrointestinal system.

FORMULA (WW #10097)

1 Teaspoon Contains:

L-Glutamine ..... 5000 mg

Our L-Glutamine powder is 100% Free Form Amino Acid.

This product contains NO sugar, salt, dairy, yeast, wheat, gluten, corn, soy, preservatives, artificial colors or flavors.

SUGGESTED USE

As a dietary supplement, adults take 1 teaspoon in 8 ounces of water, 1 to 3 times daily, or as directed by a healthcare professional.

SIDE EFFECTS

Warning: This product contains lead, a chemical known to the State of California to cause birth defects and other reproductive harm.

STORAGE

Store in a cool, dry place, away from direct light. Keep out of reach of children.

References on following page

REFERENCES

Ahmed A, Maxwell DL, Taylor PM, Rennie MJ. Glutamine transport in human skeletal muscle. Am J Physiol 1993;264:E993-1000.

Alverdy JC. Effects of glutamine-supplemented diets on immunology of the gut. J Parenter Enteral Nutr 1990;14:109S-113S.

Cummings JH, Macfarlane GT, Englyst HN. Prebiotic digestion and fermentation. Am J Clin Nutr 2001 Feb;73(2 Suppl):415S-420S

Darmaun D, Just B, Messing B, et al. Glutamine metabolism in healthy adult men: Response to enteral and intravenous feeding. Am J Clin Nutr 1994;59:1395-1402.

Evans MA, Shronts EP. Intestinal fuels: glutamine, short chain fatty acids, and dietary fiber. J Am Diet Assoc 1992;92:1239-46, 1249.

Fahr MJ, Kornbluth J, Blossom S, Schaeffer R, Klimberg VS. Harry M. Vars Research Award. Glutamine enhances immunoregulation of tumor growth. J Parenter Enteral Nutr 1994;18:471-476.

Furst P, Albers S, Stehle P. Evidence for a nutritional need for glutamine in catabolic patients. Kidney Int Suppl 1989;27:S287-92.

Herskowitz K, Souba WW. Intestinal glutamine metabolism during critical illness: a surgical perspective. Nutrition 1990;6:199-206.

Hickson RC, Czerwinski SM, Wegrzyn LE. Glutamine prevents downregulation of myosin heavy chain synthesis and muscle atrophy from glucocorticoids. Am J Physiol Endocrinol Metab 1995;268:E730- E734.

Keast D, Arstein D, Harper W, Fry RW, Morton AR. Depression of plasma glutamine concentration after exercise stress and its possible influence on the immune system. Med J Aust 1995;162:15-18.

Klimberg VS, Souba WW. The importance of intestinal glutamine metabolism in maintaining a healthy gastrointestinal tract and supporting the body's response to injury and illness. Surg Annu 1990;22:61-76.

Lacey JM, Wilmore DW. Is glutamine a conditionally essential amino acid? Nutr Rev 1990;48:297-309.

Lord LM, Sax HC. The role of the gut in critical illness. AACN Clin Issues Crit Care Nurs 1994;5:450-458.

Luo J, Van Yperselle M, Rizkalla SW, Rossi F, Bornet FR, Slama G. Chronic consumption of short-chain fructooligosaccharides does not affect basal hepatic glucose production or insulin resistance in type 2 diabetics. J Nutr 2000 Jun;130(6):1572-7

McAnena OJ, Moore FA, Moore EE, Jones TN, Parsons P. Selective uptake of glutamine in the gastrointestinal tract: confirmation in a human study. Br J Surg 1991;78:480-482.

Moskovitz B, Katz Y, Singer P, Nativ O, Rosenberg B. Glutamine metabolism and utilization: relevance to major problems in health care. Pharmacol Res 1994;30:61-71.

Newsholme EA. Biochemical mechanisms to explain immunosuppression in well-trained and overtrained athletes. Int J Sports Med 1994;15 Suppl. S142-S147.

Nurjhan N, Bucci A, Perriello G, et al. Glutamine: A major gluconeogenic precursor and vehicle for interorgan carbon transport in man. J Clin Invest 1995;95:272-277.

Ogle CK, Ogle JD, Mao JX, et al. Effect of glutamine on phagocytosis and bacterial killing by normal and pediatric burn patient neutrophils. J Parenter Enteral Nutr 1994;18:128-133.

Phillips MC, Olson LR. The immunologic role of the gastrointestinal tract. Crit Care Nurs Clin North Am 1993;5:107-120.

Prosky L. When is dietary fiber considered a functional food? Biofactors 2000;12(1-4):289-97

Rennie MJ, Tadros L, Khogali S, Ahmed A, Taylor PM. Glutamine transport and its metabolic effects. J Nutr 1994;124 Suppl.1503S-1508S.

Sharp NC, Koutedakis Y. Sport and the overtraining syndrome: immunological aspects. Br Med Bull 1992;48:518-533.

Smith RJ. Glutamine metabolism and its physiologic importance. J Parenter Enteral Nutr 1990;14:40S-44S.

Roberfroid MB. Chicory fructooligosaccharides and the gastrointestinal tract. : Nutrition 2000 Jul-Aug;16(7-8):677-9

Souba WW. Glutamine and cancer. Ann Surg 1993;218:715-728.

Souba WW, Herskowitz K, Austgen TR, Chen MK, Salloum RM. Glutamine nutrition: theoretical considerations and therapeutic impact. J Parenter Enteral Nutr 1990;14:237S-243S.

Souba WW, Herskowitz K, Salloum RM, Chen MK, Austgen TR. Gut glutamine metabolism. J Parenter Enteral Nutr 1990;14:45S-50S.

Souba WW, Klimberg VS, Plumley DA, et al. The role of glutamine in maintaining a healthy gut and supporting the metabolic response to injury and infection. J Surg Res 1990;48:383-391.

Teran JC, Mullen KD, McCullough AJ. Glutamine – A conditionally essential amino acid in cirrhosis. Am J Clin Nutr 1995;62:897-900.

van der Hulst RR, van Kreel BK, von Meyenfeldt MF, et al. Glutamine and the preservation of gut integrity. Lancet 1993;341:1363-1365.

Tuohy KM, Kolida S, Lustenberger AM, Gibson GR. The prebiotic effects of biscuits containing partially hydrolysed guar gum and fructo-oligosaccharides - a human volunteer study. Br J Nutr 2001 Sep;86(3):341

Varnier M, Leese GP, Thompson J, Rennie MJ. Stimulatory effect of glutamine on glycogen accumulation in human skeletal muscle. Am J Physiol Endocrinol Metab 1995;269:E309-E315.

Varnier M, Leese GP, Thompson J, Rennie MJ. Stimulatory effect of glutamine on glycogen accumulation in human skeletal muscle. Am J Physiol 1995;269:E309-15.

Vinnars E, Hammarqvist F, Von der Decken A, Wernerman J. Role of glutamine and its analogs in posttraumatic muscle protein and amino acid metabolism. J Parenter Enteral Nutr 1990;14:125S-129S.

Welbourne TC. Increased plasma bicarbonate and growth hormone after an oral glutamine load. Am J Clin Nutr 1995;61:1058-1061.

Yoshida S, Yunoki T, Aoyagi K, et al. Effect of glutamine supplement and hepatectomy on DNA and protein synthesis in the remnant liver. J Surg Res 1995;59:475-481.

Ziegler TR, Gatzen C, Wilmore DW. Strategies for attenuating proteincatabolic responses in the critically ill. Annu Rev Med 1995;45:459-480.

Ziegler TR, Gatzen C, Wilmore DW. Strategies for attenuating proteincatabolic responses in the critically ill. Annu Rev Med 1994;45:459-480.

Ziegler TR, Benfell K, Smith RJ, et al. Safety and metabolic effects of Lglutamine administration in humans. J Parenter Enteral Nutr 1990;14:137S-146S.

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