

## Sabinsa's Almond Protein: A Rich Source of All-natural, Vegan, and Versatile Protein

presented by

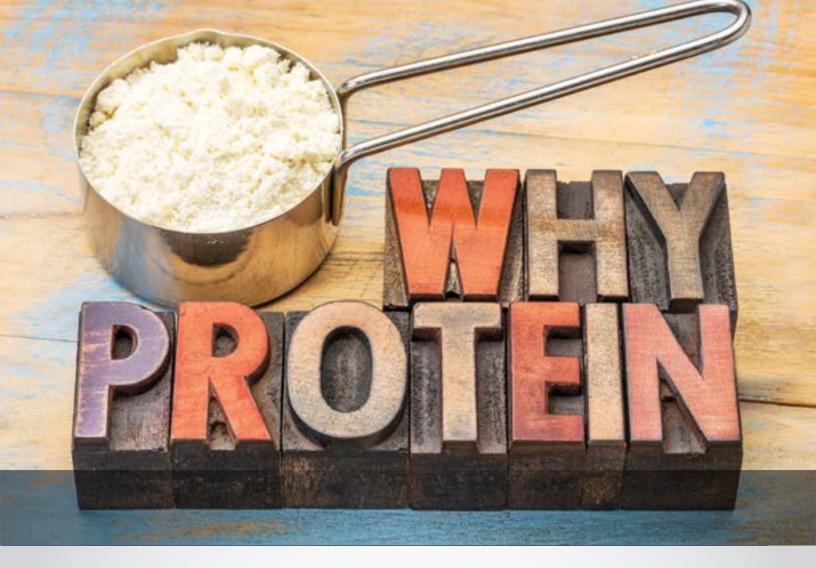






One of the long-standing and longest existing activities in the list of Food and Agriculture Organization (FAO) and World Health Organization (WHO)—technical agencies of the United Nations, during initial years of their establishment, was protein requirements of populations. This signifies the importance of protein and amino acid requirements in human nutrition. Since then a lot of research has been carried out, expert opinion has been sought, and several committees have been formed to estimate protein requirements and/or ideal amino acid composition as a part of nutritional needs of an individual or a group (1).

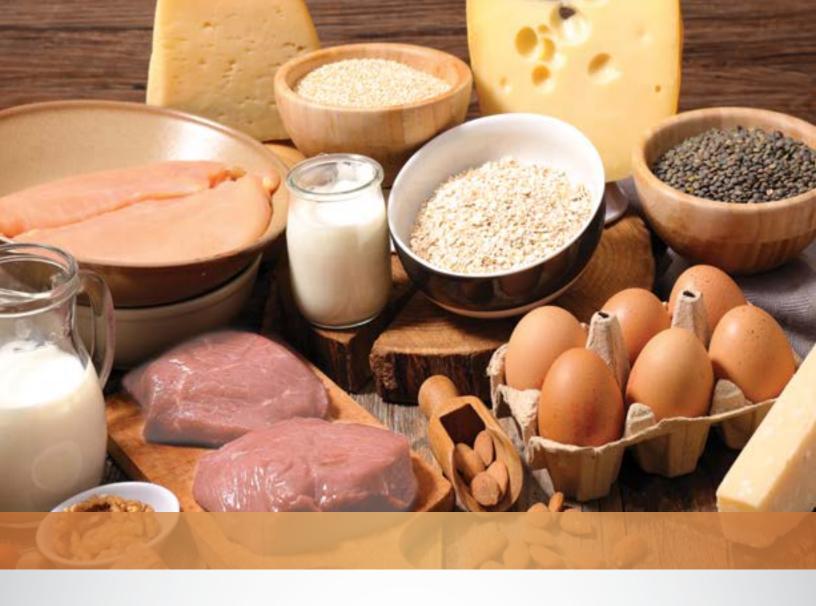




rotein, a powerful macronutrient like carbohydrates and fat, is fundamental, structural and functional element of living cell of the body, which plays an essential role in a wide range of metabolic interactions. In addition, our body utilizes this nutrient to build, repair and maintain several tissues and to make important enzymes, hormones, and other body chemicals. Protein is an important building block of bones, muscles, cartilage, skin, and blood. Our hair and nails are mostly made of protein. Thus, it is very crucial for all of us to maintain an adequate protein intake in the diet during our lifetime, particularly as we get older.

Proteins are the large molecules that are made up of long chains of amino acids—generally termed the 'building blocks of proteins.' Our body requires 20 different amino acids, which join-together to make different types of proteins that are essential to maintain good health. Of the 20 amino acids, 9 are considered as 'essential amino acids' (i.e. they are not made by the body and hence, must be obtained from diet), whereas remaining 11 amino acids are called 'non-essential', as they are made by the body itself.

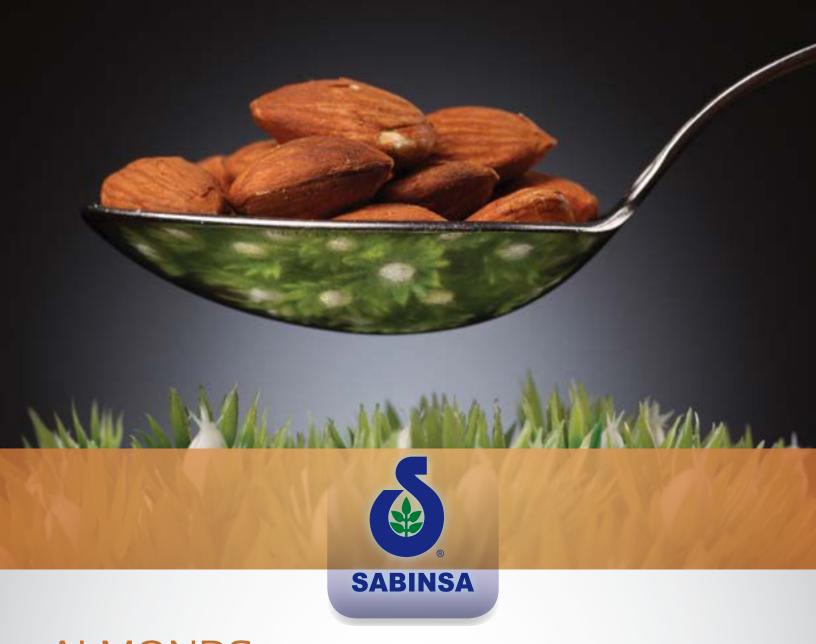
However, unlike carbohydrates and fats, our body cannot store amino acids, and as a result they are constantly being broken down and replaced by our body. Therefore, our body must constantly be supplied with amino acids to synthesize new protein molecules



variety of common foods serve as a good source of proteins, viz. meat, fish, seafood, and eggs for those who follow a non-vegetarian diet, while the vegan population can get the required portion of protein from sources like dairy products (milk, cheese, yogurt), pulses, beans, grains, nuts (e.g. almonds, walnuts) etc.

# PROTEIN IS A POWERFUL MACRONUTRIENT FUNDAMENTAL STRUCTURAL FUNCTIONAL ELEMENT



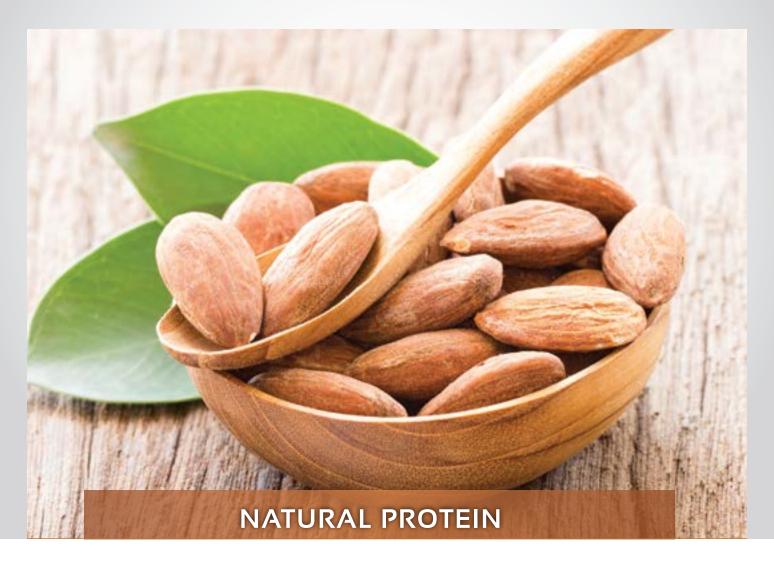


### ALMONDS

#### AN ENRICHED SOURCE OF NATURAL PROTEIN

Imonds (*Prunus amygdalus*), incredibly popular nuts in the US, belong to species related to cherries and plums, and are native to Middle East and South Asia. These highly nutritious and extremely healthy nuts are a rich source of proteins (16.42–22.17%), dietary fiber, and other micronutrients like calcium, magnesium, potassium, and vitamin E ( $\alpha$ -tocopherol). Pepsin has been identified as the most efficient natural enzyme for hydrolyzing almond proteins, thus categorizing them under digestible proteins (2).

#### HEALTH BENEFITS OF ALMONDS



#### HEALTHY NUTRITION

#### HEALTHY CHOLESTEROL LEVELS

n recent years, extensive research on almonds has proved that this versatile nutrient food exerts an array of health benefits, including healthy heart support [maintaining healthy cholesterol levels (3, 4), reducing the risk of coronary artery diseases (5–7), reducing oxidative stress (8)], management of diabetes (6) and obesity, and related complications (3, 4, 9), maintaining the body's energy flow, and preventing the risk of gallstones (10, 11).



#### NUTRITION BENEFITS OF ALMONDS



ating almonds improve the diet-quality in adults and young children, and modulates the microbial composition of the gastrointestinal tract (12). Almonds lowered blood sugar responses after eating as a snack. Almonds also reduced hunger and desire to eat, and did not increase the risk for weight gain (13).

low-calorie diet group using almonds instead of complex carbohydrates had a sustained and greater weight reduction at the end of 24 weeks than those who ate a low-calorie diet with complex carbohydrates (14).









#### PROMOND<sup>TM</sup>:

#### A NATURAL PROTEIN SOURCE WITH HIGH NUTRITIONAL VALUE

abinsa has come up with 100% natural, gluten-free, and vegan protein from almonds standardized to contain not less than 50% protein. It is an off-white to cream-colored, water-soluble powder, and has good taste compared to other protein powders. Nutrition facts sheet (serving size: 100 g) comparing different protein sources suggests that Promond™ has higher protein and amino acids content (see table).





## COMPARISON OF NUTRITION FACTS OF DIFFERENT PROTEIN SOURCES

Particulars	Promond™	Black Beans	Pumpkin	Hemp
Source	Badam Seeds	Black Beans	Pumpkin Seeds	Hemp Seeds
Protein content	58.02 g	9 g	19 g	45 g
Amino acids	60.9 g	8.4 g	19 g	Not detected
Calories	343.74 kcal	132 kcal	446 kcal	403 kcal
Total fat	Not detected	1 g	19 g	12 g
Total carbohydrate	8.5 g	24 g	54 g	25 g
Sugars	Not detected	-	<u>-</u>	3 g
Water solubility (pH range: 5–7.5)	Soluble	-	-	-
Additional Information	Gluten-free	-	-	-





#### AMINO ACID PROFILE

- Gluten-free, low in hydrocarbons and sugars
- Contains aspartic acid, threonine, serine, glutamic acid, proline, glycine, alanine, valine, isoleucine, leucine, tyrosine, phenylalanine, histidine, lysine, arginine, cysteic acid, methionine, and tryptophan (constitutes both essential and non-essential amino acids)



#### SALIENT FEATURES



Although its amino acid profile is similar to whey protein, is particularly high in glutamate, arginine, aspartate, and phenylalanine



Its well-balanced profile fulfils the essential amino acid requirements outlined by the WHO for adults



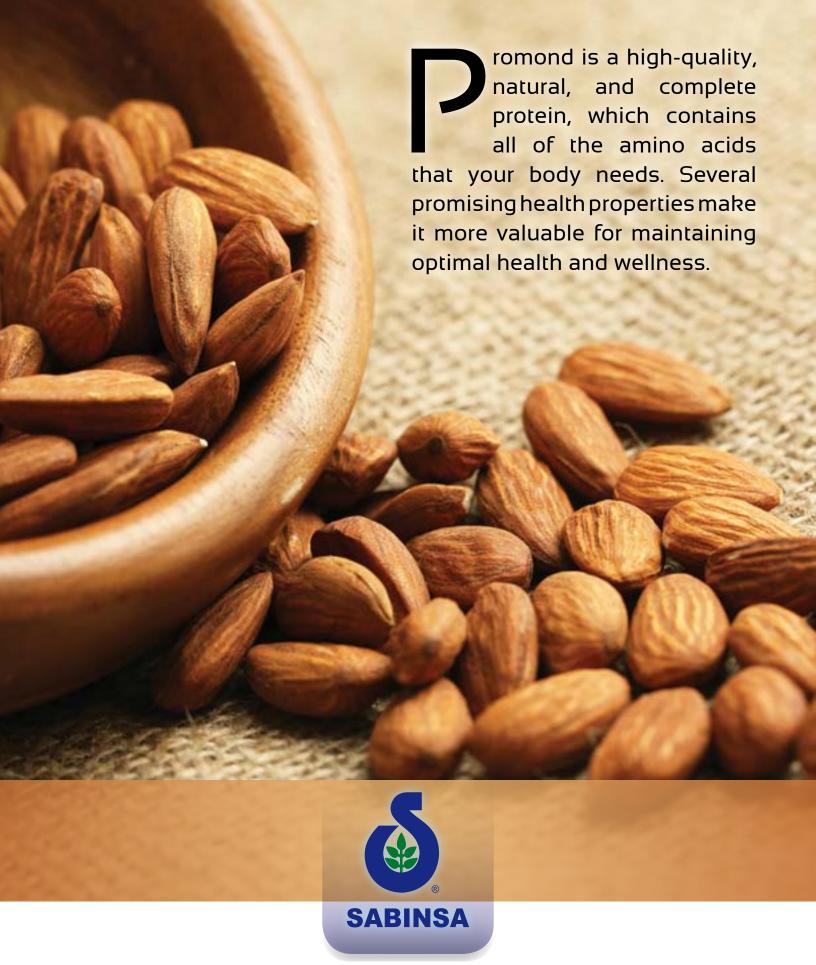
It easily gets digested, unlike popular whey protein powders, because it contains no lactose or glutens—hence, no bloating!



Per serving protein content up to 0.5 g; and **zero fat** 



Having a complete array of amino acids, including high levels of branched-chain amino acids (BCAAs), it helps boost pre-workout energy and post-exercise muscle recovery, reduce muscle loss, supports build lean muscle mass and helps maintain a healthy weight, and regulates satiety







#### **SABINSA**

#### REFERENCES

- World Health Organization. Protein and amino acid requirements in human nutrition: report of a joint WHO/ FAO/UNU expert consultation. Available at: http://apps. who.int/iris/bitstream/10665/43411/1/WHO\_TRS\_935\_ eng.pdf. Accessed on 29 April 2017.
- 2. Sathe SK. Solubilization, electrophoretic characterization and in vitro digestibility of almond (Prunus amygdalus) proteins. *J Food Biochem*. 1992;16(4):249–64.
- 3. Wien M, Bleich D, Raghuwanshi M, Gould-Forgerite S, Gomes J, Monahan-Couch L *et al.* Almond consumption and cardiovascular risk factors in adults with prediabetes. *J Am Coll Nutr.* 2010;29(3):189–97.
- Berryman CE, West SG, Fleming JA, Bordi PL, Kris-Etherton PM. Effects of daily almond consumption on cardiometabolic risk and abdominal adiposity in healthy adults with elevated LDL-cholesterol: a randomized controlled trial. *J Am Heart Assoc.* 2015 DOI: 10.1161/JAHA.114.000993.
- Jenkins DJ, Kendall CW, Marchie A, Parker TL, Connelly PW, Qian W et al. Dose response of almonds on coronary heart disease risk factors: blood lipids, oxidized low-density lipoproteins, lipoprotein(a), homocysteine, and pulmonary nitric oxide: a randomized, controlled, crossover trial. Circulation. 2002;106(11):1327–32.
- Jenkins DJA, Kendall CWC, Josse AR, Salvatore S, Brighenti F, Augustin LSA et al. Almonds decrease postprandial glycemia, insulinemia, and oxidative damage in healthy individuals. J Nutr. 2006;136(12):2987–92.
- 7. Hu FB, Stampfer MJ, Manson JE, Rimm EB, Colditz GA, Rosner BA. Frequent nut consumption and risk of coronary heart disease in women: prospective cohort study. *BMJ*. 1998;317(7169):1341–5.

- 8. Li N, Jia X, Chen CYO, Blumberg JB, Song Y, Zhang W *et al.* Almond consumption reduces oxidative dna damage and lipid peroxidation in male smokers. *J Nutr.* 2007;137(12):2717–22.
- Abazarfard Z, Salehi M, Keshavarzi S. The effect of almonds on anthropometric measurements and lipid profile in overweight and obese females in a weight reduction program: a randomized controlled clinical trial. *J Res Med Sci*. 2014;19(5):457–64.
- 10. Tsai CJ, Leitzmann MF, Hu FB, Willett WC, Giovannucci EL. Frequent nut consumption and decreased risk of cholecystectomy in women. Am J Clin Nutr. 2004a;80(1):76– 81
- Tsai CJ, Leitzmann MF, Hu FB, Willett WC, Giovannucci EL. A prospective cohort study of nut consumption and the risk of gallstone disease in men. Am J Epidemiol. 2004b;160(10):961–8.
- 12. Burns AM, Zitt MA, Rowe CC, Langkamp-Henken B, Mai V *et al.* Diet quality improves for parents and children when almonds are incorporated into their daily diet: a randomized crossover study. *J Nutr Res.* 2016;36(1):80–9.
- 13. Tan SY, Mattes RD. Appetitive, dietary and health effects of almonds consumed with meals or as snacks: a randomized, controlled trial. *Eur J Clin Nutr*. 2013;67(11):1205–14.
- 14. Wien MA, Sabate JM, Ikle DN, Cole SE, Kandeel FR. Almonds versus complex carbohydrates in a weight reduction program. *Int J Obes Relat Metab Disord*. 2003;27(11):1365–72.
- Berryman CE, Preston AG, Karmally W, Deckelbaum RJ, Kris-Etherton PM. Effects of almond consumption on the reduction of LDL-cholesterol: a discussion of potential mechanisms and future research directions. *Nutr Rev.* 2011;69(4):171–85.





Sabinsa, founded in 1988, provides alternative and complementary natural products for human nutrition and well-being. Sabinsa has pioneered the introduction of more than 120 ingredients, ranging from standardized botanicals, natural cosmeceuticals, to multi-enzyme blends and production of a shelf-stable probiotic. To support these products, there are numerous privately funded clinical studies in conjunction with prestigious institutions studying these products in a very consistent manner. Sabinsa is globally positioned with 1,000 people working in manufacturing and distribution facilities, and 120 full-time scientists conducting on-going research in India and the United States. Ingredients by Sabinsa are both Kosher and Halal certified.

For more information, contact info@sabinsa.com.

