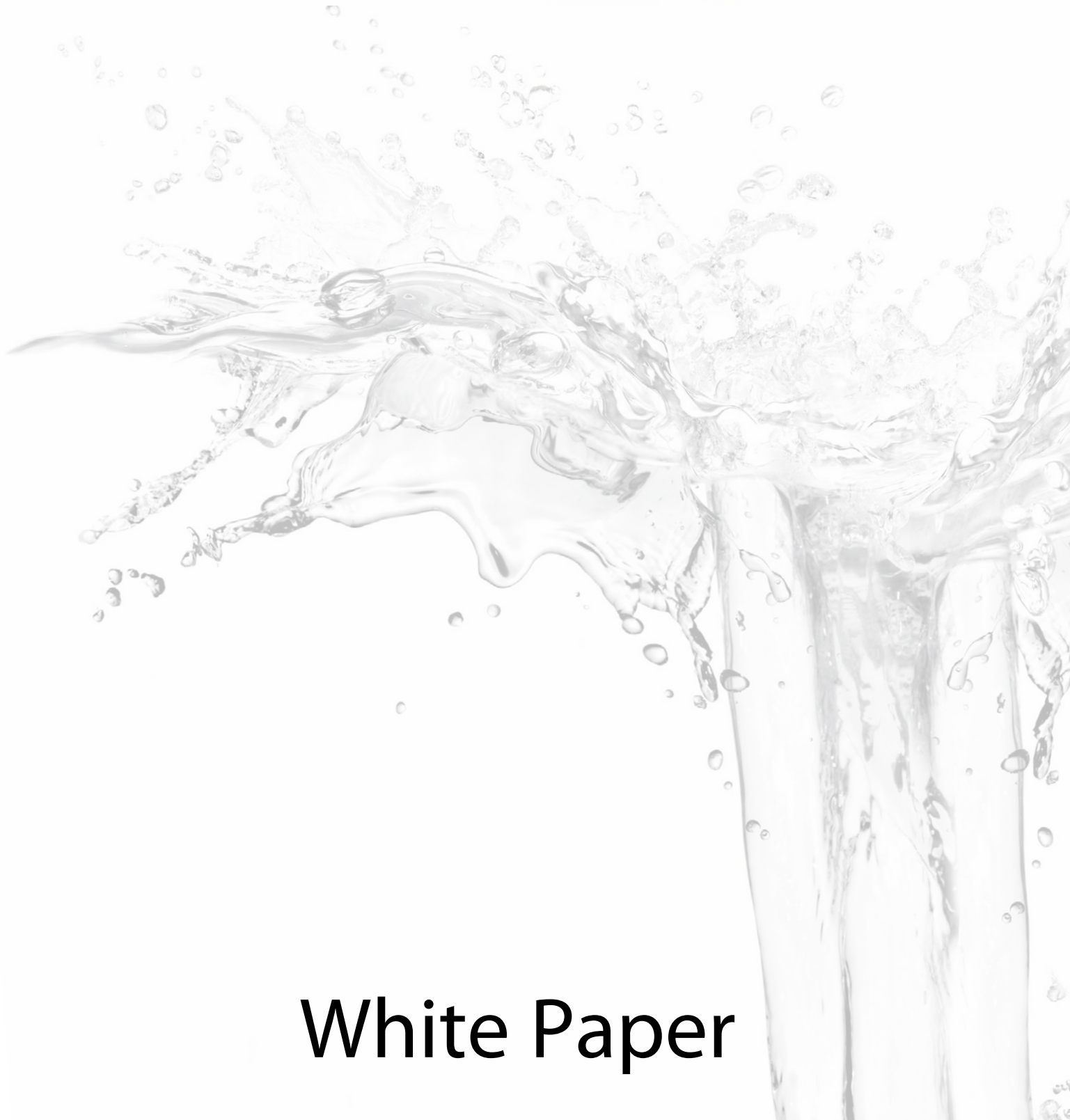


PROSource[®] 20



White Paper

This information is intended for
healthcare professionals only

nutrinovo
simply innovative nutrition

Introduction

Protein is an essential macronutrient, and adequate protein is fundamental for maintaining optimal health, growth, development, and function throughout life.¹ Protein needs are often increased in older people and those who are unwell.² Inadequate protein intake increases the risk of malnutrition. ProSource 20 is uniquely formulated to support protein intakes when appetite is reduced and/or protein requirements are increased.

Background

In 2022, Nearly half (45%) of all adults screened across health and care settings in the UK were found to be at risk of disease related malnutrition.³ Compromised calorie and protein intake, alongside increased nutritional requirements can precipitate malnutrition.

Observational studies have shown that the average daily dietary protein intakes in community-dwelling, hospitalised and institutionalised older adults are 0.65 and 0.8 g/kg of body weight respectively.^{4,5} and therefore those individuals, particularly in hospitals or community care settings, are unlikely to be meeting their protein requirements from diet alone.

A Dutch European retrospective study of hospitalised patients revealed that only 25% of undernourished patients met their energy and protein requirements by the fourth day of admission. Protein requirements, defined as at least 1.2 grams per kilogram of body weight, were particularly difficult to achieve. Patients with cancer and acute infections were at the highest risk of not meeting the recommended protein intake. Ensuring adequate protein and energy intake is vital for hospitalised patients to mitigate the effects of catabolism and minimise the loss of body protein mass.⁶

Alongside a reduction in intake, during illness and injury nutritional requirements may be increased, and oral nutritional supplements or enteral feeding may be required to ensure nutritional needs are met. In certain conditions and patient groups, protein needs may be increased more significantly than calorie requirements and it can be challenging to provide adequate protein without overfeeding calories.

In other cases, calorie and protein requirements may both be increased, but whilst patients may be able to consume adequate calories from energy dense sources, they may struggle to achieve increased protein intakes. Modular protein supplements have high protein to calorie ratios and can therefore be helpful in situations when increased dietary protein is needed, but energy intake from non-protein sources should be minimised or is not required.⁷

ProSource 20 Meeting the protein gap

ProSource 20 is a new generation modular supplement containing 20g of a unique protein, that delivers on average over 50% more essential amino acids (EAA) than flavoured protein shot-type products, without compromising on taste.

ProSource 20 has a high protein to calorie ratio and is low in volume, providing 20g of protein and 90 calories, in one 60ml serving. ProSource 20 can be consumed straight from the cup or can be mixed into a variety of other foods and drinks, to support a food fortification approach. It can also be administered via an enteral feeding tube as required.

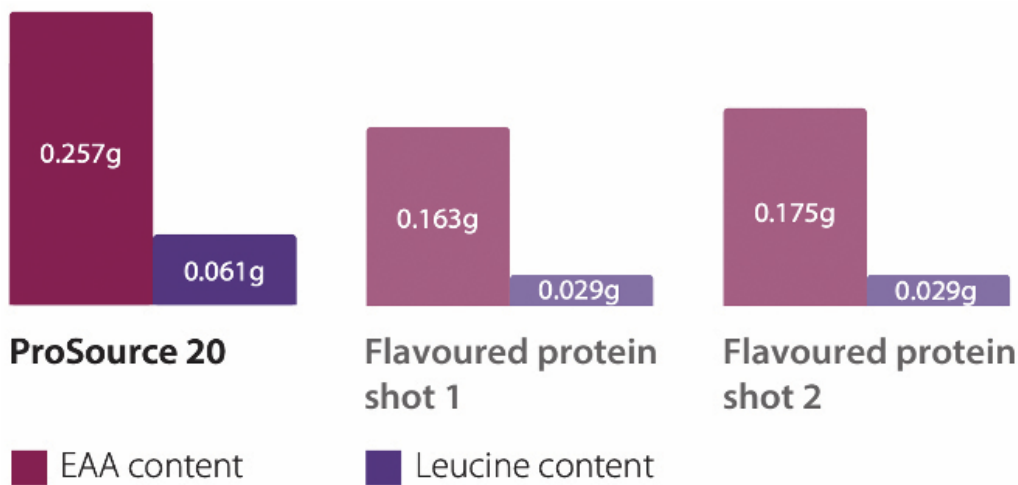
ProSource 20 provides hydrolysed proteins from a combination of protein sources, bovine collagen and whey isolate. Collagen proteins are abundant in the human body, comprising the main structural component of connective tissue, skin, bone and tendon, as well as being the most abundant protein in the extracellular matrix.⁸ Collagen is therefore likely to be a key factor in musculoskeletal remodelling throughout the lifespan.⁹

Collagen itself is an incomplete protein, deficient in the EAA tryptophan. ProSource 20 is supplemented with additional amino acids ensuring a complete protein source is provided. Hydrolysed collagen has very good digestibility and becomes readily bioavailable following consumption in humans⁹ contributing to the quality of ProSource 20.

Whey protein isolate is rich in essential amino acids, particularly branched-chain amino acids (BCAAs) including leucine, which plays a crucial role in initiating muscle protein synthesis.¹⁰ Whey protein isolate is absorbed quickly due to its absorption kinetics, high protein purity (90-95%), efficient digestive breakdown, soluble nature, complete amino acid profile, and beneficial hormonal responses.¹¹

With the combination of collagen, whey isolate and further amino acid supplementation, ProSource 20 delivers on average over 50% more essential amino acids (EAA) than other flavoured protein shot style supplements available as FSMP in the UK and Ireland (Figure.1).

Figure 1: EAA and Leucine content of ProSource 20 vs. flavoured protein shot-type products (per g protein)



A Snapshot of supporting studies

A randomised, controlled, prospective study looking at protein supplementation and anabolism in chronic haemodialysis patients, showed positive effects for collagen supplementation on protein balance. Patients given a hydrolysed, tryptophan fortified, collagen supplement prior to and during dialysis had reduced whole body protein breakdown and improvements in whole body net protein balance. These effects were more pronounced after a higher dose of the protein supplement.¹²

Supplementation with a collagen-casein based liquid protein supplement has also been shown to improve serum albumin levels in hypoalbuminaemic haemodialysis patients. Patients given 30ml ProSource at the start of and just before the end of their dialysis treatments, 3 times per week for 3 months, saw a significant increase in serum albumin levels compared to baseline.⁷ Furthermore, increases in albumin in chronic haemodialysis patients have been associated with reduced short term relative risk of mortality.¹³

A tryptophan fortified, collagen protein hydrolysate supplement, was shown to significantly increase the rate of pressure ulcer healing. Long term care residents with grade 2-4 pressure ulcers, who took supplements containing 15g protein three times per day for 8 weeks, had significantly better PUSH tool scores compared to controls.¹⁴ More recently a double blind, multi-centric, placebo controlled randomised trial showed that supplementation with 10g collagen hydrolysate, twice per day, for 16 weeks significantly improved grade 2 and 3 pressure ulcer healing, as measured by PUSH score, compared to a placebo.¹⁵

In a randomised double-blind placebo-controlled study, 15g per day of a collagen peptide supplement, combined with resistance exercise, resulted in a significant increase in fat free mass and decreases in fat mass in elderly sarcopenic men.¹⁶ A total of 53 men with a mean age of 72.2 were recruited in the study. The results showed that 60 min of resistance exercise, performed three times per week, could significantly increase muscle mass, muscular strength, and motor control in sarcopenia patients. In addition, the study also showed that the combination of resistance exercise and collagen peptide supplementation resulted in a significant improvement in muscular strength as well as a significant increase in muscle mass and decrease in fat mass compared to placebo. A further study in healthy elderly women found that hydrolysed collagen supplementation resulted in preservation of LBM and nitrogen balance, despite overall inadequate protein intakes.¹⁷

Conclusion

ProSource 20 provides a unique high quality protein supplement, that delivers on average over 50% more essential amino acids (EAA) than other flavoured FSMP protein shot style supplement available in the UK and Ireland. ProSource 20 provides a quality source of protein that is easily digested and absorbed, with levels of leucine that support MPS.

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