

GMP

glycomacropptide/casainmacropptide

neutraceutical ingredient

Glycomacropptide (GMP, also called cGMP or CMP) is a phosphorylated and glycosylated peptide chain of 64 amino acids, derived from casein in bovine milk. This “protein” is released into whey during cheesemaking by the enzymatic action of chymosin (rennet). It is normally found in most whey protein isolates and concentrates but is not isolated in a highly purified form. In its purified form, GMP is

completely devoid of the amino acid phenylalanine. Since phenylalanine levels need to be controlled in diets of patients managing phenylketonuria (PKU), GMP has been successfully used in PKU medical foods. As a purified ingredient, GMP exhibits several other bioactive functions that are suitable beyond PKU application.

Purified GMP is a bioactive peptide that can provide health benefits beyond basic nutrition



Prebiotics and bacterial inhibition



Immunity enhancement



Satiety and weight management



Anti-inflammation

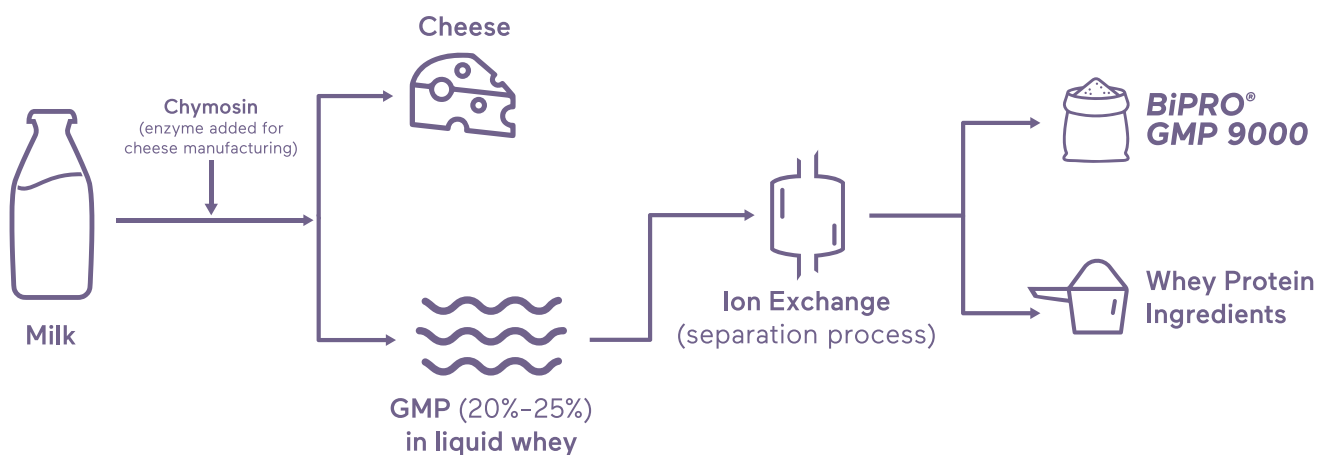


Foods for PKU patients



Remineralization of enamel and bone health

GMP/CMP is derived from kappa-casein in bovine milk



Unique features of BiPRO® GMP 9000



Natural peptide from milk



Commercially formulated in medical foods



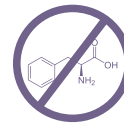
Functions supported by scientific evidence



High protein content and purity



Easy to formulate



Extremely low in phenylalanine



Advanced processing technology: Ion exchange



Lactose free

BiPRO® GMP 9000 Application Opportunities

Beverage

GMP is stable in pasteurized and UHT shelf-stable drinks

RTM Nutritional Powders

Snacks and Bars

Easy to use in formulation

Functional and Medical Foods

References

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Córdova-Dávalos, Laura Elena, Mariela Jiménez, and Eva Salinas. "Glycomacropeptide bioactivity and health: A review highlighting action mechanisms and signaling pathways." *Nutrients* 11.3 (2019): 598.

Pena, Maria João, et al. "The use of glycomacropeptide in patients with phenylketonuria: A systematic review and meta-analysis." *Nutrients* 10.11 (2018): 1794.

Van Calcar, Sandra C., and Denise M. Ney. "Food products made with glycomacropeptide, a low-phenylalanine whey protein, provide a new alternative to amino acid-based medical foods for nutrition management of phenylketonuria." *Journal of the Academy of Nutrition and Dietetics* 112.8 (2012): 1201-1210.

Agropur Ingredients

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