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## Sam Sulek's Chocolate Milk: Muscle Building and Strength Gains

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### Abstract

YouTuber and fitness influencer Sam Sulek has brought renewed attention to chocolate milk as an effective drink for muscle hypertrophy. This paper explores the scientific evidence behind chocolate milk's benefits in muscle protein synthesis, post-exercise hydration, and muscle recovery. While some studies suggest positive effects on muscle strength and endurance, others indicate no significant advantage over other recovery beverages. This article evaluates existing research to determine just how effective chocolate milk may be for building muscle.

Keywords: Internet; Biology; Physiology; Sam Sulek; Chocolate Milk

## Introduction

Sam Sulek is an up-and-coming YouTuber and fitness influencer, famous for his calm personality and fitness advice [1]. In his videos, he can be seen buying unusually large amounts of chocolate milk (CM) [2]. Could this be his secret weapon for maximising muscle growth and strength gains?

## How Much Chocolate Milk Does Sam Consume?

While Sam has reduced his CM intake during his *cutting phase* (a calorie deficit aimed at fat loss while preserving muscle mass), he previously shared a full-day-of-eating video in which he consumed a whopping 2 litres of CM [3] during his *bulk phase* (calorie surplus phase where you seek to put on muscle). He has mentioned that his average consumption of CM in a bulking phase is approximately ¼ of a gallon (~ 1.1 L) [3].



Figure 1 – Sam consuming CARBmaster<sup>®</sup> Lactose Free Skim Chocolate Milk [4].

## **Nutritional Profile of His Milk of Choice**

Not all CM has the same nutritional profile and Sam's choice, along with other ultra-filtered chocolate milks, are great for muscle hypertrophy.

	Nutrition Facts   7.0 About servings per container   Serving size 8 fl oz(240 mL)	
	Amount per serving Calories	80
Ne		% Daily value*
CARBINGSICI	Total Fat Og	0%
ULTRA FILTERED NON-FAT MILK	Saturated Fat 0g	0%
VITAMINGA 6D	Trans Fat 0g	
KETO	Cholesterol 10mg	4%
	Sodium 220mg	9%
	Total Carbohydrate 7g	3%
	Dietary Fiber 1g	3%
CHOCOL BS	Sugar 6g	
(11 <sup>g</sup> )	Added Sugar 3g	7%
(6a) (80) ****	Protein 11g	23%
PER SERVING	Calcium 370mg	30%
	Iron 0.7mg	4%
	Potassium 380mg	8%
ULTRX PASTEONTAL CHICKLATE HER	Vitamin A 150mcg	15%
07 07 07 01 84 0T) L74L @0	Vitamin D 2.5mcg	10%
59 Ft 02 (1.04 0.)	*The % Daily Value (DV) tells you how much a nutrient in a serving of food contributes to a daily diet, 2,000 calories a day	

#### Ingredients

Ultrafiltered Nonfat Milk, Cocoa processed with alkali, Sugar, Sucralose\*, Lactase Enzyme\*, Natural & Artificial Flavor, Salt, Carrageenan, Acesulfame Potassium\*, Vitamin A palmitate and Vitamin D3.\*ingredient not in regular milk CONTAINS: MILK.

> Figure 2 – CARBmaster<sup>®</sup> Lactose Free Skim Chocolate Milk nutrition facts [5].

*CARBmaster*<sup>®</sup> *Chocolate Milk* is ultra-filtered. Ultra-filtered CM is typically lactose-free, low-sugar and high in protein [5], making it ideal for bodybuilders. Sam consumes ~1.1 litres per day [3], equating to approximately 4 and a half servings (4.58 servings). With 11 g of protein and 80 calories per serving, this amounts to 49.5 g of protein and 360 calories.

## Benefits

CM effectively supports glycogen replenishment, muscle repair, and hydration. The sugars replenish intramuscular glycogen stores and upregulates muscle protein synthesis by activating the mTOR pathway via insulin signalling [6]. Additionally, its protein profile consists of fast-digesting whey and slow-digesting casein, promoting muscle protein synthesis and aiding in muscle repair and growth [7]. CM contains electrolytes like sodium, potassium, and calcium that optimize hydration, support nerve function [8], and prevent muscle cramps by regulating fluid balance. They also maintain proper muscle contractions and ensure efficient action potential signalling between nerves and muscles [9].

For those seeking a lactose-free, high-protein, low-sugar alternative, ultra-filtered chocolate milks contain a great macronutrient profile for hypertrophy and strength related goals [5]. Whether you're an athlete or a casual gym-goer, it's a budget-friendly (*ultra-filtered CM* is approximately \$4.99 for 7 servings [5]) and convenient way to refuel, recover, and maximise muscle gains [10].

As Sam is always either bulking or cutting, his weight fluctuates a lot. As of the 18<sup>th</sup> of October 2024, Sam weighed an immense 109 kg [11]. To maximise muscle protein synthesis, the recommended protein intake is 2.2 g/kg/day [12], making Sam's protein goal approximately 240 g per day. His consumption of CM amounts to 49.5 g per day, making up a sizeable amount of his daily protein goal (20.625 %).

## Chocolate Milk: Strength and Muscle Hypertrophy

Recent research has suggested that CM is an effective post-workout supplement when paired with resistance training. An 8-week study found that individuals consuming 500 mL of CM postworkout experienced greater muscle hypertrophy (+20.8% vs. +9.1%), higher strength gains (+36.7% vs. +17.6% in 1RM), and improved power output (+37.8% vs. +13.8%) compared to resistance training alone [13]. Additionally, body fat percentage decreased more significantly (-18.9% vs. -6.7%), highlighting its role in lean muscle development [13].

A study on 103 high school athletes examined the effects CM, versus carbohydrate-only (CHO) on strength development over five weeks of strength training. A repeated measures ANOVA found a

significant main effect of time (p = 0.002,  $\eta p^2 = 0.18$ ) and a significant interaction between groups (p = 0.04,  $\eta p^2 = 0.08$ ), with the CM group showing a 12.3 % increase in strength compared to 2.7 % in the CHO group [14]. While these results suggest CM may be an effective post-exercise recovery drink for adolescents, the study's short duration and limited sample size indicate a need for further research with larger populations and extended intervention periods.

systematic review and meta-analysis А in the European Journal of Clinical Nutrition [15] examined 12 controlled trials on CM as a postexercise recovery drink. The analysis found no significant effects of CM on key recovery markers (time to exhaustion, rating of perceived exhaustion, heart rate, lactate and creatine kinase) compared to placebo or sports drinks like Gatorade, Powerade and chocolate soy milk [15]. However, subgroup analysis showed CM improved TTE and reduced post-exercise lactate. The study noted methodological limitations, with only two high-quality trials and issues like small sample sizes and unclear randomization. While CM may offer comparable or slight advantages over other recovery drinks, further high-quality research is needed to confirm its effectiveness [15].

## **Potential Health Concerns**

Lactose sensitivity can cause digestive discomfort in some individuals [16], but lactose-free CM options provide an alternative. Its caloric density may be unsuitable for those in a calorie deficit or looking to maintain weight, as regular consumption can contribute to excess calorie intake. Commercial CM often contains added sugars and artificial ingredients, which can decrease insulin sensitivity and if enough is consumed can cause type two diabetes [17].

## Conclusion

Sam Sulek's favourite chocolate milk [4] isn't just a sweet treat, it's a high protein, relatively low carbohydrate drink that is packed with electrolytes [5]. These factors make it a great drink for increasing muscle protein synthesis, without overconsuming calories, while being budget friendly [12, 5]. Although there is some conflicting evidence, research suggests it supports muscle hypertrophy and strength development, making it as or more effective than sports drinks and protein-carb blends [13, 14, 15].

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