

# MacroEssentials Protein Formula

## Welcome to NutriScan®

At NutriScan®, we take our products daily as part of our individual efforts to enjoy superior health, so do our families, and our friends. Each of our products must satisfy our demanding standards for the quality of foods and dietary supplements we will put in our bodies and give to our loved ones. The reason for this is simple; we rely on our products to support our health and performance goals. Your health is also very important to us, we think of you as our extended family...so welcome!

## Our Mission

At NutriScan®, our mission and associated standards necessitate that we bring all of our customers the best dietary supplement values to be found anywhere, along with the information to make informed buying decisions.

## Value

Value is about far more than price...value is a combination of price and benefits. A product might be available at a rock bottom price, but if it doesn't contribute positively to a person's health, it rates very low on our 'value scale'. We think our customers are too important to make this trade-off. We are only interested in products which actually support our customers' health. If at times, that means paying more for the product, that's still our clear preference. We feel the most expensive products that you can buy are those which don't do what you bought them to do, or worse still, may even compromise aspects of your health. Without suitable safety and predictable results, there is no real value, and at NutriScan®, we are in the business of delivering real value.

## Real Information

We want all of our customers to have access to the type of quality information they need to make the most informed buying decisions. It's your health. Your body is relying on you to make great choices so it can be healthy. You can only make great choices if you have access to great information. Rather than bury you in marketing hype, at NutriScan® we believe in telling you why we make the decisions we make...both in terms of why we include certain ingredients and why we intentionally do not include others. No smoke and mirrors just real information so that you can make real choices.

## Macronutrient

The three macronutrients in our diet are proteins, fats, and carbohydrates. Most healthy foods have a combination of at least 2 of these 3 macronutrients. A genuinely healthy meal will usually have some of all three of the macronutrients, in high quality forms. If you want to get an estimate of your individualized macronutrient needs, a calculator provided by Blue Cross Blue Shield of Minnesota is available by accessing the link below. After you enter your height, weight, age, sex, activity levels, weight goals, and for females your status with respect to pregnancy, the calculator will estimate your macronutrient needs quantitatively. <http://blueprint.bluecrossmn.com/topic/macronutrient>

## The Role of Macronutrient Balance

All 3 macronutrients perform different roles in supporting our health and so all three are important; however, of the 3, good quality protein is the hardest to get in a convenient food. The reality of the standard American diet is that the average person eats too much fat and carbohydrate, and too little protein. This is especially true when it comes to breakfast foods and convenient snacks...many of which are very poor sources of protein. To complicate matters further, the quality of the most typical macronutrient choices leaves a lot of room for improvement. The results of this approach to eating are obvious and surround us everyday. They include things like our expanding waistlines, energy level dips, mood swings, blood sugar imbalances, high cholesterol levels, and more. Part of the solution is to put balance back into the macronutrient equation at each meal and/or snack. This is where our MacroEssentials products come in, providing a high quality protein boost. Whether used as (1) an add on to a healthy meal, (2) a substitute for breakfast or another meal, (3) a nutritious snack, or (4) a post-workout shake, all MacroEssentials powders, when mixed with water or low-fat milk (dairy, soy, rice, almond etc.) are:

- High in quality protein
- Low in fat
- Good sources of dietary fiber (approximately 4 grams of fiber per serving)
- Sweetened with organic cane sugar

## Choosing the Ingredients

When it comes to creating a macronutrient powder, there are hundreds and hundreds of ingredient choices. It is quite literally a jungle out there. At NutriScan®, we believe in keeping it simple.

*You won't see mixtures of a lot of different protein sources.*

When several different protein sources are mixed together (like casein, whey, and soy as an example), our clinical experience has been that the likelihood of an unwanted food sensitivity reaction goes up substantially. We pick one protein source, *only one*...to include in each of our macronutrient products.

*You won't see several different sweeteners.*

We have seen some products with a list of sweeteners that includes fructose, sugar, and high fructose corn syrup. Why? Can't they make up their mind? We pick only one sweetener...organic cane sugar. We picked this one sweetener for a reason. The reason is simple. After researching all of the different sweetener options, we feel better about including a small amount of organic cane sugar than any other available sweetener options. [Note: To put things in perspective, the total amount of sugar in a serving of MacroEssentials is about ¼ of what you would find in a bottle of soda.] This type of sweetener is ideal for replenishing glycogen (quick energy) stores. Since glycogen is depleted following exercise, drinking a beverage containing this type of sweetener is an ideal component of post-exercise nutrition.

*You won't see corn syrup, high fructose corn syrup, or fructose.*

Per capita consumption these sweeteners have increased progressively in each of the past decades. Estimates suggest a daily consumption of fructose of 81 g/d in 1997 (that's 3 ounces!) and some estimates suggest the average person consumes between 15-20% of their total calories as fructose. Research strongly links fructose sweeteners to insulin resistance. In fact it is used to create insulin resistant animals for research. Fructose, compared with glucose, is preferentially metabolized to lipids (triglycerides) in the liver...has links

to increased blood pressure...inducing an inflammatory response...creating a functional deficiency of essential fatty acids, and selected vitamins & minerals. All of this is bad news for heart health (not to mention waist lines). Not surprisingly researchers are increasingly linking use of these sweeteners to the current epidemics of obesity and diabetes and the concomitant health challenges faced by people with these conditions. We simply will not use these sweeteners in our products in any amount...the average person already gets too much of the fructose-based sweeteners in their diet.

*You won't see artificial sweeteners, nonnutritive sweeteners, sugar alcohols or other sugar substitutes.* Some artificial sweeteners (like saccharin) have been around for a long time...others like acesulfame-K are new arrivals. Saccharin was introduced in the middle of the 19<sup>th</sup> century. You would think that an artificial sweetener that has been used for almost 150 years, particularly by people trying to lose weight, would have a lot of human research on weight loss. Not so...50 years and no compelling research exists! What exist instead are concerns over these substances potential for contributing to some forms of cancer. Aspartame accounts for more adverse reactions to food additives reported to the US Food and Drug Administration (FDA) than all other food additives combined. Of the 90 non-industry-sponsored studies on aspartame, 83 (92%) identified one or more problems with aspartame. Amazingly, of the 74 aspartame industry-sponsored studies, all 74 claimed that no problems were found with aspartame. Hmmm...who should we trust here? Acesulfame K was approved as a sugar substitute for some food applications in 1988 (it still hasn't been approved for use in soft drinks and baked goods). This artificial sweetener has been linked to cancer in animals and no long-term research on humans exists. We reviewed research on one newly introduced sugar substitute which shall go unnamed. Increased flatulence was consistently reported. In one study in 100% of users! It's simply amazing that this would seem like a good idea to anyone creating a product designed to support health... but it is already showing up in foods! By now you're probably getting the picture. We have looked at the research on all of the different sweetener options and quite simple, are not comfortable using any of these in our diets.

*You won't see added vitamins and minerals.*

Since many minerals and some vitamins are ideally taken at very specific times and in precise doses, it is our policy to deliver them in customized packets that are to be taken at the best times of the morning and evening. Since MacroEssentials is intended to be used as needed, irrespective of the time of the day or evening, including added minerals and vitamins, is simply not an option. Our experience is that giving minerals and vitamins at the wrong times of the day and/or in excessive doses, ensures that you get less benefit for your nutritional investment. For those of you on our Personalized Nutrition System, you would run the risk of interfering with both the individually tailored dosing and the nutrient delivery timing features (governed by our Chronologic® rules). We keep any added micronutrients streamlined and only add supplements into a product if there is a very good reason and they have no time sensitivity. As an example, we are comfortable adding digestive enzymes, to aid proper digestion, because the body naturally makes these in response to eating at all times of the day and night.

[Note: See our health bulletin Issue #2 on ChronoNutrition for more about this important subject.]

*You won't see only one dietary fiber.*

Leading health agencies consistently recommend getting our dietary fiber from a variety of sources. Use of dietary fibers in powders designed as beverages is a dicey business, because the wrong fibers or too much of the right fibers can really ruin the taste and/or texture once the powder is mixed with liquid. We have carefully selected dietary fibers so that we could ensure that each serving contains:

(1) a reasonable amount of dietary fiber, (2) a desirable variety of dietary fibers, and (3) uncompromised taste and texture.

*What you will see*

We believe in keeping it simple so all you will see in MacroEssentials is:

- One source of high quality protein (Example: whey)
- Organic Cane Sugar as the only sweetener
- A variety of dietary fibers (as one or more of guar gum, inulin, and/or beta glucans)
- Natural flavors (Dutch chocolate, vanilla, coconut, etc.)
- Digestive Enzymes (to support digestion and nutrient assimilation)

**Taste and Convenience**

A food can be great for us but let's face it, if it doesn't taste great and if it isn't convenient, it's not likely to play a consistent role in our health. This is the age-old dilemma of 'adherence'. Sure we might know what to do...but are we actually going to do it? Because of this, MacroEssentials are designed with taste and convenience in mind. Simply mix two scoops of powder into an 8-ounce glass of water (or low-fat milk) and you have a great tasting and convenient addition to your diet. Please share with us any other ways (or recipes) you have found to enjoy MacroEssentials so that we can pass your suggestions along to other customers.

**The Flavors***Natural Chocolate Coconut Flavor*

**INGREDIENTS:** Protein Blend (80% Whey Protein Concentrate, 90% Whey Protein Isolate), Organic Cane Sugar, Dutch Cocoa, Inulin Fiber, Natural Coconut Flavor, Guar Gum, Beta Glucan, and Natural Plant Enzyme Blend.

*Natural Vanilla Bean Flavor*

**INGREDIENTS:** Protein Blend (80% Whey Protein Concentrate, 90% Whey Protein Isolate), Organic Cane Sugar, Inulin Fiber, Natural Vanilla Flavor, Guar Gum, and Natural Plant Enzyme Blend.

**Whey Proteins**

Whey proteins are from the whey fraction of dairy. Unfortunately this fraction is relatively low in total protein percent. In order to improve the overall protein profile to use in a powdered beverage like MacroEssentials, removal of the majority of the milk sugars and milk fat is required. We use a combination of whey protein concentrates and whey protein isolates which have had milk sugars and fats removed by a process called ultrafiltration. This combination of whey proteins allows for a great tasting protein source which is low in fat and milk sugars.

Whey proteins have some substantial benefits compared with other available protein source options. Whey protein provides a balanced source of essential amino acids with an extremely high protein efficiency ratio (PER=3.1). In a simplified sense, the PER is a measure of the degree to which lean muscle gain is promoted. Whey protein contains all the essential amino acids and is a very good source of branched chain amino acids and the amino acids needed to make a critically important tri-peptide called 'glutathione', involved in antioxidant status, immunity, and detoxification. Whey proteins are easily digested. In fact they have the best ability of the available proteins used for making protein powders with respect to quickly passing through the digestive system and being available in the blood for rebuilding and repairing muscles. This is one of the reasons that whey proteins are the dominant protein source used by strength athletes and weight lifters. Several health benefits have been defined for whey proteins. These include (1) promoting a feeling of fullness & satiety 2) supporting gastrointestinal mucosal barrier function, 3) enhancing the growth of beneficial gut microflora, 4) improving nitrogen balance to support better muscle tissue integrity in circumstances characterized by muscle wasting; 5) supporting immune system performance and detoxification pathways, and 6) enhancing aspects of athletic performance and body composition.

#### RESEARCH BULLET POINTS\*:

- Whey proteins have been shown to improve nitrogen balance better than protein sources such as egg whites, soy or casein.
- Whey proteins have been shown to promote satiety better than an equivalent amount of casein
- Whey proteins have been shown to reverse overnight muscle tissue breakdown.
- Whey proteins have been shown to improve glutathione status
  
- Whey proteins have been shown to improve nutritional status because of the nutrition they contain and their positive impact on nutrient absorption.
- Whey proteins have been shown to positively influence body composition in some individuals
- Whey proteins have been shown to improve aspects of memory and cognitive performance especially in stress-vulnerable subjects and elderly individuals.

## The Fibers

Each serving of MacroEssentials contains approximately 4 grams of dietary fiber. Leading health authorities routinely recommend higher fiber diets. In the U.S. the current recommendations are that we should consume a minimum of 25 grams of dietary fiber daily. Each serving contributes approximately 15% of the fiber needed to meet this daily total fiber goal. In keeping with recommendations of most health agencies for having a variety of fibers in your daily diet, we use a combination of 2 or more of the following fibers in MacroEssentials – Inulin, Guar Gum, and Beta Glucans (in the *Natural Chocolate Macaroon Flavor* only). The primary fiber in all of these products is Inulin.

***Inulin is...*** a natural storage carbohydrate found in many edible plants including chicory root, artichoke, leek, onion, asparagus, garlic, and bananas. It is considered a soluble fiber (like oat bran) and is metabolized similarly to other soluble dietary fibers. This means that it resists digestion in the upper gastrointestinal tract and therefore is available as a food supply for microflora, primarily lactic acid bacteria, in the large intestine. The result is that it can promote the growth of selected probiotic bacteria (which in turn has numerous health benefits).

Emerging studies suggest that, as a dietary fiber, inulin can have a variety of health benefits. Many of these benefits are shared by other sources of dietary fiber. These benefits include:

- Positive influence on lipid metabolism
- Improved bowel transit time and stool bulk
- Improved gut microbial ecology
- Enhanced mineral absorption

**Guar Gum is...** a soluble fiber. While it can lower cholesterol and blood sugar at high doses, the amounts used in MacroEssentials are far lower than those that have been used in studies on cholesterol and blood sugar and so wouldn't be expected to have any significant impact on these biomarkers. The real reason that guar gum is used in this product (and other powders mixed with liquids and enjoyed as beverages) has to do with the functional properties of gum fibers. Gum fibers are actually a relatively expensive source of fiber; however, they are very soluble in water (and other liquids). This makes them an excellent source of fiber for adding to powders which will be used as beverages from a taste-texture perspective. Nevertheless, even with their excellent solubility, they have to be kept to a relatively low amount or the beverage will become too thick and viscous.

**Beta Glucan is...** a source of fiber that has been extensively studied in animals for its impact on immunity and resistance to infections. In general terms, beta glucans tend to be non-specific immune response modifiers in animal studies. This means they act a bit like adaptogens for the immune system. Frankly though, despite all of the animal studies on immunity, human studies are really non-existent currently. Since we feel human evidence is mandatory before we can really evaluate claims about any supplement, we didn't include this fiber because of the existing immune claims. We chose to add beta glucan into the *Natural Chocolate Macaroon Flavor* because we liked the taste and texture we were able to achieve by adding small amounts of this fiber source, and it allowed us to have a broader 'variety' of dietary fiber.

*References available on request*

<b>For more information contact this office:</b>
<i>Call 866-887-4633 for customer service, product information, or additional information on ordering this and other nutritional products and services. Visit our website <a href="http://www.mynutriscan.com">www.mynutriscan.com</a></i>

These statements have not been evaluated by the Food and Drug Administration. This product is not intended to diagnose, treat, cure, or prevent any disease.