

# ProtaLyn®

Patents Pending

“Enzymatic Hybrid Protein™”

[www.ProtaLyn.com](http://www.ProtaLyn.com)

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## What Is ProtaLyn®?

I have worked hard to develop a perfect process for protein by finding a way to pump more of this muscle-building compound into your body through “Hybrid Enzymatic Peptide Processing”™.

## What Is Protein And Do Humans Need It?

The word protein comes from the Greek word *proteios*. Proteins were first discovered and named by the Swedish chemist Jons Jakob Berzelius in 1838.

Proteins are organic compounds made of amino acids that are arranged into a linear chain and joined together by peptide bonds. These peptide bonds are formed between the carboxyl and amino groups of adjacent amino acid residues. The amino acid sequence of a protein is fully defined by the sequence of a gene. This gene is encoded in the genetic code which specifies 20 standard amino acids.

Many proteins are also enzymes that can catalyze biochemical reactions and are crucial to human metabolism. These proteins must first be broken down into free amino acids before this process can take place, which is why it is important that your protein source be digested and assimilated easily.

The following eight amino acids are considered essential for humans. They are phenylalanine, valine, tryptophan, theonine, isoleucine, methionine, leucine and lysine. They are called essential not because they are more important but because our bodies cannot produce them, making it essential to obtain these eight from the diet.

In addition, the amino acids arginine, cysteine, glycine, glutamine, histidine, proline serine and tyrosine are considered conditionally essential, which means they are not normally required in the diet but must be supplied exogenously to specific populations that do not synthesize them in adequate amounts. The rest are called non-essential because our body can synthesize them.

The bottom-line is that Protein is essential to human life; it cannot be sustained without it. The higher the quality of protein, the less you need - that is the key to the protein game.

## How Much Protein Do You Need?

The U.S. Food and Drug Administration currently recommends that protein make up 10 percent of the total calories you consume each day. Since protein has 4 calories per gram, in a 2,000-calorie diet, that would allow for 50 grams of protein. Meanwhile, the national average consumption of protein is about 90 grams daily. However, athletes need more than the average human. Scientist have determined that an athlete (depending on the sport) needs about 1 gram

per pound of body weight. (2.2 grams per kg of body weight)

### **How Is ProtaLyn® Made?**

This biologically active protein represents the next generation of high end protein powders. All American Pharmaceutical's Dairy Division has been a top manufacturer of whey protein for the past 25 years. The results of our continued research to the develop high quality, great tasting protein is what has lead to development of ProtaLyn® .

In any process you must begin with the highest quality ingredients to end up with superior finished goods. You've heard this one many times before, but it is worth repeating again:

**“Garbage in, Garbage Out.”** This simply means if you start with low quality raw material you will get a low quality finished product.

USDA prime choice milking cattle are chosen for the milk source. Special care is taken with everything from their feed, to how they are handled.

The milk is immediately loaded into temperature controlled stainless steel transfer trucks. Upon arrival at our State of the Art filtration & ionization plant, every step of the process is monitored for quality.

During this first process, enzymes are added and the mix processes as the milk ripens. The dairy whey is then removed from the mix and transported to another holding tank. The following steps now take place:

- 1). Casein is removed to secure proper filtration
- 2). Separation of cream to reduce the fat content
- 3). Heat treatment to control bacteriological quality
- 4). The addition of high quality grain extracts
- 5). Additions of pre-treatments
- 6). pH adjusted

The second step then requires this mix to sit, mature, then chill for 24 hours before moving into filtration.

Once the required peptide response is achieved, the liquid mix moves into ultra filtration, which removes the remaining fat, etc., to a concentration of around 75% protein solids by dry measurements.

High heat and denaturing processing are the quickest and cheapest ways to dry protein. However, it should also be noted that extreme heat is the worst drying process for proteins because it ruptures (“denatures”)and reforms the natural protein bonds into cross-links. This slows down the digestion and absorption process because these cross-linked proteins have thousands more bonds for the enzymes in your intestines to break down. Because it takes longer for the amino acids to reach the muscles, it causes about a 65% less nitrogen retention. Some proteins that are commonly processed with extreme heat are; egg whites, lactalbumin, casein, & whey protein.

Our scientific processing techniques use "State of the Art" technology and equipment, allowing us to bypass this deadly heating process by using a cold high speed air chamber drying

technique. In these large chambers, the ionic cold high speed air processing blows off all the excess water, leaving us with a finished powder called ProtaLyn®. This process results in the most bio-available protein ever produced.

### **How Are Proteins Rated?**

In order to explain why ProtaLyn® is the ultimate protein powder, it is first important to understand how proteins are rated. I am not talking about slick marketing ads that says they have the best protein or some ridiculous made up protein score, rather I am talking about real science and testing as outlined by the FDA. Here are the most commonly used protein testing categories:

- A). Biological Value (BV)  
Measures the amount of nitrogen retained in comparison to the amount of nitrogen absorbed.
- B). Net Protein Utilization (NPU)  
The ratio of the nitrogen used for tissue formation versus the amount of nitrogen digested.
- C). Protein Efficiency Ratio (PER)  
Measures the ability of a protein to support growth by representing the ratio of weight gain to the amount of protein consumed.
- D). Amino Acid Scores (AAS)  
A chemical technique that measures the indispensable amino acids present in protein and compares the values with a reference protein. The protein is rated based upon the most limiting indispensable amino acid
- E). Protein Digestibility Corrected Amino Acid Score (PDCAAS)  
The amino acid score with an added digestibility component.
- F). Protein Digestibility (PD)  
A test to measure how well protein is digested.

## The Test Results Are In!

### PROTEIN QUALITY TESTS COMPARISON SUMMARIES

Protein Type	PDCAAS	AAC	PER	BV	PD
WPC	0.90	1.05	2.9	93.8	96.9
Casein	1.00	1.00	2.5	88.0	99.0
Soy Protein Concentrate	1.00	0.99	2.2	74.0	95.0
Beef	0.92	0.94	2.9	80.0	98.0
Eggs	1.00	1.21	3.8	88.0	98.0
<b>ProtaLyn®</b>	<b>1.00</b>	<b>1.10</b>	<b>3.0</b>	<b>96.4</b>	<b>99.0</b>

#### Summary:

On average, ProtaLyn® WPI out performed all other proteins sources.

#### Reference:

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