

# PROTEIN 101



Ever since the Atkins Diet and similar high-protein diets made news back around the year 2000, people have been trying to wrap their brains around why this macronutrient gets so much hype. In regards to the high-protein diet specifically, the theory is when you severely restrict your intake of carbs and eat high amounts of protein, your body goes into a state of ketosis. In layman's terms, this means you use stored fat for energy instead of carbohydrates and you lose uber amounts of weight in a short period of time. On paper, this might look like a tremendously awesome way to shed weight, but is it really healthy? In my honest opinion, I'd give the answer a resounding NO. However, the point of this handout is not to pander on about the high-protein diet. Instead, I want to give you the straight dope about what protein does and why we DO need at least a base amount on a daily basis.

**Function:** All the cells in the human body, from the ones in your hair follicles to the ones in your auditory canals, rely on protein for their formation. A very low intake of protein will cause brittle hair and nails, possible hair loss altogether and a compromised immunity—yes, protein also helps your immune system function optimally.

*There are two basic forms of protein—complete and incomplete. For the most part, if it has a mother, it's a complete protein with a few exceptions.*

**Forms:** Not all protein is created equal. *You have either complete or incomplete proteins.* The difference between the two is in the amino acid profile. Amino acids are known as building blocks of protein. In all, there are 21 different amino acids—nine of which are essential, and 12 that are non-essential. Non-essential amino acids are produced naturally in the body, while essential amino acids are not. They are called “essential” because they are essential for proper function. The only way you get these amino acids is from food or supplementation. A protein food that does not have all the essential amino acids is called an incomplete protein. On the other hand, a protein that does have all the essential amino acids is called a complete protein. It's pretty easy to remember.

Be aware that some health organizations will try to complicate things and mention “conditional” amino acids. They claim these amino acids are only essential in times of stress or illness. This theory fringes on more in-depth conversation for later, so don't worry about it for now. Just focus on complete vs. incomplete proteins.

*Most complete proteins “have a mother,” but these non-meat foods are actually “complete” proteins because they have all the essential amino acids—quinoa, hemp, spirulina, soy, buckwheat, amaranth, goji berries, and chia seeds.  
Great to know if you are a vegan or avoiding meat!*

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**Complete Proteins:** As good friend of The Lean Berets Linda Finley once said, “If it has a mother, it’s a complete protein.” For the most part, this statement is entirely true. All foods that have a mother or come from an animal that has a mother are complete proteins. This list includes beef, bison, turkey, chicken, lamb, pork, ostrich, goose, duck, venison and all forms of wild game, eggs from any animal and all dairy products. Seafood, fish and shellfish fall into the category of complete proteins as well. Now here’s where it gets a little interesting. *Certain foods that do NOT have a mother are also complete proteins because they have all the essential amino acids present.* Quinoa is the most notable of these, and you can also add hemp, spirulina, soy, buckwheat, amaranth, goji berries and chia seeds to the list. This is valuable information if you are vegan or a strict vegetarian.

**Incomplete Proteins:** Just because a food is an incomplete protein, it does not mean it’s unhealthy. In fact, most incomplete proteins still have a number of notable nutrients. Legumes, nuts, seeds, whole grains (except those mentioned above), nut butters, corn, fruits, vegetables and derivatives of these foods are all incomplete.

**Food Combining:** People who are vegan or vegetarian often partake in this “thing” called food combining. Simply put, when you combine two incomplete proteins together, they form complete protein in your body. I find that very cool and almost fascinating. This means you do not need to eat 1 to 2 grams of protein per pound of body weight every day like the muscle heads at your local gym will try to lead you to believe. The best way to meet your daily protein needs is by simply making sure to include at least some protein in every meal, regardless if it is complete or incomplete. And here’s where it gets even more interesting. You do not need to pare the incomplete proteins together in the same meal as you may have been told for years. That’s old school mentality mate. As long as you consume incomplete proteins in a 24-hour span, you will reap the benefits of complete protein. This means you can have a bowl of oatmeal for breakfast, beans for lunch and brown rice for dinner.

**Intake:** The exact amount of protein you need on a daily basis is a grey area. Although there is a recommended amount, I think it is individualized. For example, someone who partakes in high-intensity exercise five or more days a week is going to need more protein than a person who sits in a chair for 10 hours a day. As I mentioned above, *simply try to include some form of protein in every meal you eat* and you’ll be fine.

\* Kevin Rail/Ron Jones (12.31.12)