

# Protein 101

## What is protein?

Protein is one of the three types of macro nutrients that provide our body with calories. Every gram of protein that we eat contributes 4 calories of energy to our body much like carbohydrates. Unlike carbohydrates, protein plays a special role in making up a large majority of our physical internal/external structures.

Proteins function to:

- Make up muscles, bones, skin, cartilage, and blood
- Produce hormones, vitamins, and enzymes
- Build and repair tissues



On it's own, our body is able to make 11 out of the 20 amino acids it requires. However, the remaining 9 are considered essential amino acids because they must come from our diet in order for our body to be able to carry out the specific functions we mentioned above. Unlike carbohydrates which can store their excess glucose in the form of glycogen, proteins require daily replenishment and cannot be stored for later use. For this reason it is important to make sure you are getting in the right sources of protein and in the correct quantities.

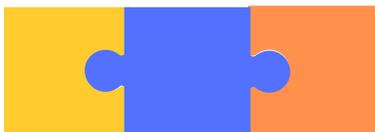
## Types of protein

### Incomplete protein



This type of protein does not contain all 9 of the essential amino acids in one source. Therefore, it needs to be paired with another incomplete protein to make a complete protein. Examples are commonly plant-based options. Think of it as a missing puzzle piece. You need 2 pieces to make up what the other lacks. (ex. peanut butter + toast)

### Complete protein



This source of protein contains all 9 of the essential amino acids needed by the body in a single source. No other combinations need to be made as it has all that we need in one. Common sources are animal-derived products with the exception of soy products and quinoa.

## ✓ Sources of protein

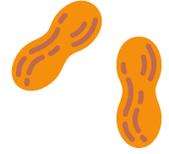
Now that you know the different types of protein let's dive into the specific sources that are best.



Beans/legumes



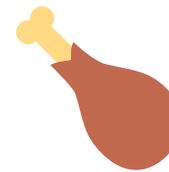
Soy products



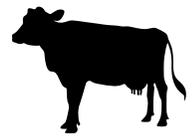
Nuts & seeds



Turkey



Chicken



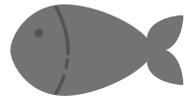
Lean beef



Cheese



Eggs



Fish/seafood

Although it may seem best to go for the complete protein sources all the time, it is the most beneficial to eat both complete and incomplete sources of protein. Incomplete sources contribute a great deal of fiber, vitamins, and minerals which have many health benefits. Whereas eating nothing but complete proteins from animal sources can also include greater amounts of saturated fat and cholesterol. Incorporating both types of protein is the most heart healthy choice

## Protein sources to avoid/limit



Some protein sources that are high in nitrates which are considered to be carcinogenic (cancer causing). Cured/heavily processed meats are often high in these and should be avoided or limited as much as possible.

Typical sources include:

- deli meats (roast beef, pastrami, bologna, ham)
- cured meats (salami, prosciutto, pepperoni, bacon)
- heavily processed (sausages, hot dogs)