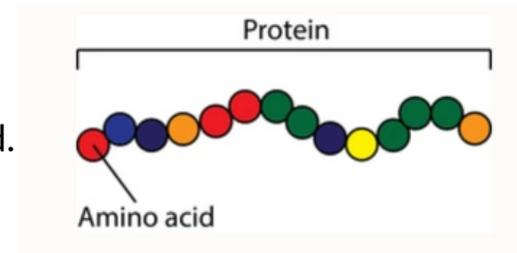


# COMPLETE vs INCOMPLETE PROTEIN



## What is protein?

- Protein is one of three macronutrients, along with carbs and fat, that our bodies need to function properly. The building blocks of protein are called **amino acids**.
- There are **20 different amino acids** and **9** of them are classified as **essential amino acids**, meaning our bodies do not make them and we must get them from our food.
- Protein's main claim to fame is its role in **muscle growth and repair** and it is important we receive a variety of different protein sources in order to meet these needs.



## What is a complete protein?

- A complete protein is defined by a protein source that contains **all 9 essential amino acids** in sufficient amounts.
- Animal sources:
  - Meat, poultry, fish, eggs, dairy
- Plant-based sources:
  - Quinoa, soy products (tofu, tempeh, edamame), chia seeds



## What is an incomplete protein?

- An incomplete protein is defined by a protein source that **lacks** one or more essential amino acid.
- Most plant-based sources:
  - Beans, lentils, nuts, seeds, whole grains
- It is important to note that just because a protein is incomplete, **does not** mean you do not absorb any protein from it.



# COMPLETE vs INCOMPLETE PROTEIN



## Combining Protein Sources

- For those that are **vegan, vegetarian**, or interested in including more plant-based proteins into their diets, aim to **combine** these incomplete proteins together to make a complete protein:
  - Rice + Beans
  - Peanut Butter + Whole Grain Bread
  - Hummus + Whole Wheat Pita
- Note: Complementary proteins don't need to be eaten in the same meal but within the **same day**.



## Vegan Protein Supplements

- Protein powders are a great way to increase protein intake during the day. Aim to use protein supplements as a **snack** instead of a meal replacement.
- Ensure the powder has **one or more** of these complete protein sources
  - Soy Protein – Naturally a complete protein.
  - Pea + Rice Protein Blend – Together, they form a complete protein.
  - Hemp Protein – Contains all essential amino acids, though lower in lysine.
  - Quinoa Protein – A complete plant-based protein but often found in blends.



Garden of Life



Plant Fusion



Thorne