*Biochemistry: Proteins*

Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**PROTEINS:**

* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**:** meats, soy, cheese
* Large complex polymer composed of C, H, O, N, & sometimes S
* Monomers (basic building blocks): \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
	+ - * + \_\_\_\_\_\_different amino acids

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Example amino acids:

 Structure of an amino acid:

* + Central carbon atom bonded with **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**. The other 3 bonds are with an \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ group (-NH2), a \_\_\_\_\_\_\_\_\_\_\_\_\_\_group

(-COOH) and a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_group (-R)

o The variable group makes each amino acid \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_!

 Amino acids are linked together by \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ to form a protein

* + Ex: 2 amino acids joined by \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_= a covalent bond that joins amino acids to each other

* + Forms between the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ group of one amino acid and the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_group of the otheramino acid.

 Proteins- named for the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_of amino acids that make them

* + Ex: o two amino acids =

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

* + - three amino acids =

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

* + - many amino acids =

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 **Essential Amino Acids:**

* + \_\_\_\_\_\_of the \_\_\_\_\_ amino acids are “essential” because they are required by the body but are \_\_\_\_\_\_\_\_\_created by it.

o As a result, it must be provided by our\_\_\_\_\_\_. If one is missing then proper growth and repair cannot be\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

**Types &** **Functions of proteins in our body:**

* + 1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_contraction (actin and myosin)
		2. Transport \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_in the bloodstream (hemoglobin)
		3. Provide \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_(antibodies)
		4. Carry out \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_reactions (enzymes and hormones)
		5. Collagen = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ protein in animals
* Gives connective tissue \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
	+ Anti-wrinkle creams?
1. Keratin
	* **­­­­­­­­­­­­­­­­­­­­­­­**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ protein in humans
	* Found in \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, nails, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
	* Adds \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. All proteins help with \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of cells in our diet
* Increase protein intake during rapid \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ years or \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ repair.

 **What happens to PROTEINS in the body?**

* + - Broken down by the digestive system via HYDROLYSIS into

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_which are then absorbed into the body through the bloodstream, where the body cells take the amino acids and makes protein for muscles.

**Crash Course: You Are What You Eat**

<https://www.youtube.com/watch?v=H8WJ2KENlK0&list=PL3EED4C1D684D3ADF&index=3>