

## Classification of Proteins and Their Functions

Class of Protein	Function in the body	Examples
Structural	Provide structural components.	<i>Collagen</i> is in tendons and cartilage <i>Keratin</i> is in hair, skin, wool, and nails.
Contractile	Move muscles.	<i>Myosin</i> and <i>Actin</i> contract muscle fibers.
Transport	Carry essential substances throughout the body.	<i>Hemoglobin</i> transports oxygen. <i>Lipoproteins</i> transport lipids.
Storage	Store nutrients.	<i>Casein</i> stores protein in milk. <i>Ferritin</i> stores iron in the spleen and liver.
Hormone	Regulate body metabolism and nervous system.	<i>Insulin</i> regulates blood glucose level. <i>Growth hormone</i> regulates body growth.
Enzyme	Catalyze biochemical reactions in the cells.	<i>Sucrase</i> catalyses the hydrolysis of sucrose. <i>Trypsin</i> catalyses the hydrolysis of proteins.
Protection	Recognize and destroy foreign substances.	<i>Immunoglobulins</i> stimulate immune responses.

In terms of structure, proteins can also be classified as:

*Simple Proteins* – If they yield only amino acids when they are hydrolyzed.

*Conjugated Proteins* – If they yield amino acids and additional products when hydrolyzed.

On a nutritional basis, proteins are classified as:

*Complete* – If they supply all the essential amino acids.

*Incomplete* – If they are deficient in one or more essential amino acids.