

Protein Function Table:

The following is a list of representative types of some proteins in the body. The categories are neither inclusive nor mutually exclusive; for example, insulin is a hormone that acts to transport oxygen gas, and therefor fits into at least 2 categories. Epinephrine is both a hormone and a neurotransmitter.

General Structural Classification	General Functional Classification	Examples
Fibrous	Structural Framework and/or mechanical support	<p>Collagen: the most abundant protein in animals, and is the molecule responsible for tensile strength in bones, ligaments and tendons.</p>
		<p>Keratin: structure of hair and nails, waterproof material of the skin of animals.</p>
	Movement	<p>Dystrophin: stabilizes and reenforces muscle cells; a fault in dystrophin leads to some forms of muscular dystrophy.</p> <p>Actin and Myosin: the contractile proteins of animal muscle cells. Actin also makes up the microtubules of most cells, which play an important role in cell movement, including ciliary and flagellar movement.</p>

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Globular	Catalysts (<i>Enzymes</i>).	<p>Nearly all chemical reactions that occur in biological systems are catalyzed by specific enzyme molecules. They allow these reactions to occur significantly faster than they would normally proceed at physiological conditions, increasing the rate of biochemical reactions within the body at least a millionfold.</p>
		<p>For example, Digestive enzymes catalyze the breakdown of macromolecules into smaller subunits in order to make absorption and transportation easier. Amylase is an enzyme that occurs both in saliva and in the intestines that helps to break apart the glucose-glucose bonds in the carbohydrate starch, thus allowing your body to absorb the glucose and use it for energy.</p>
		<p>ATPase: Catalyzes the conversion of ATP into ADP and phosphate, thereby regulating energy usage within the cell.</p>
	Transportation and storage	<p>Hemoglobin: transports oxygen gas in blood plasma.</p>
		<p>Ferritin: a protein that combines with iron to store it in the liver.</p>
		<p>Insulin: transports glucose in blood plasma.</p>
		<p>Some proteins guide the flow of electrons in photosynthesis.</p>

	Defense	Antibodies: released by plasma cells, which bind to and inactivate foreign cells.
	Recognition and identification	Antigens: Embedded in the cell surface, the antigens act to identify the cell as signals.
	Communication	Hormones: in complex organisms, hormones regulate the activity of other cells, either turning them "on" and "off" or slowing down and speeding up their activity. Hormones are (generally) circulated in the body's tissues, and therefore have broad, long-term effects.
		Neurotransmitters: same as hormones, except they are not circulated in the blood, but are released locally and therefore have very localized, short-term effects.
	Regulation	Albumin: regulates (among other things) pH and hydrostatic pressure of the blood.
		Protein channels: regulate the movement of charged particle in and out of the cell, including sodium and potassium.
		Protein pumps: Move ions against their concentration gradients, helping to form and maintain diffusion and electromagnetic gradients. This process always uses energy in the form of ATP.
DNA Polymerase: one of many proteins that control the replication and expression of genetic material.		