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Matric No:- 18/mhs01/171

Department:- Anatomy

Course:- Bch 204

Assignment

- 1. What are coenzymes?
- 2. Difference between water and fat soluble vitamins
- 3. Describe niacin in relation to its coenzymic functions

Answer

 Coenzymes are small molecules that enhances the action of an enzyme. They cannot by themselves catalyze a reaction but they can help enzymes to do so. In technical terms, coenzymes are organic non-protein molecules that bind with the protein molecule (apoenzyme) to form the active enzyme (holoenzyme).

Example- Vitamin B1,B2, and B6

- 2. Water-soluble vitamins dissolve in water, which means these vitamins and nutrients dissolve quickly in the body. Water-soluble vitamins are carried to the body's tissues, but the body cannot store them. Any excess amounts of water-soluble vitamins simply pass through the body while Fat-soluble vitamins are soluble in fats. They are absorbed by fat globules that travel through the small intestines and into the general blood circulation within the body. Unlike water-soluble vitamins, fat-soluble vitamins are stored in the body when they are not in use. Typically, they are stored in the liver and fat tissues. Although only small amounts of these vitamins are necessary to maintain good health.
- 3. Niacin is a water-soluble vitamin. Its substances are used by the body to form the coenzymes NAD and NADP.
- Niacin coenzymes degrade carbohydrates, fats, proteins and alcohols and synthesize fatty acids and cholesterol. They play a role in cell signaling.
- Niacin assists functions of the nervous and digestive system. It plays a role in food metabolism and in the formation of red blood cells and skin.
- NAD and NADP are coenzymes that are part of the energy production system of the body.