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QUESTION:

1. What are co-enzyme

Coenzyme is a substance that enhances the action of an enzyme. An enzyme is a protein that functions as a catalyst to mediate and speed a chemical reaction. In technical terms, coenzyme are organic non-protein molecules that bind with protein molecules (apoenzyme) to form the active enzyme (holoenzyme)

1. Differentiate between fat and water soluble vitamins

Differences between fat soluble vitamins and water soluble vitamins:

Fat-Soluble Vitamins

Fat-soluble vitamins are dissolved in fats. They are absorbed by fat globules that travel through the small intestines and distributed through the body in the bloodstream. Unlike water-soluble vitamins, excess fat-soluble vitamins are stored in the liver and fatty (adipose) tissues for future use. They are found most abundantly in high-fat foods and better absorbed if eaten with fat. Because fat-soluble vitamins are not readily excreted, they can accumulate to toxic levels if taken in excess. Where a well-balanced diet can’t cause toxicity, overdosing on a fat-soluble vitamin supplements can.

They are four types of fat-soluble vitamin, each of which offers different benefits.

Water-Soluble Vitamins

Water-soluble vitamins are those that are dissolved in water and readily absorbed into tissues for immediate use. Because they are not stored in the body, they need to be replenished regularly in our diet. Any excess of water-soluble vitamins is quickly excreted in urine and will rarely accumulate to toxic levels. With that being said, certain types of water-soluble such as vitamin C can cause diarrhea if taken in excess. The water-soluble vitamins include the B-complex group and vitamin C.

1. Describe niacin in relation to its coenzymic function

Niacin assists functions of the nervous and digestive system. It plays a role in the 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. This system works by means of oxidation and reduction (redox) reactions. Niacin deficiency occurrence causes many symptoms such as fatigue, headaches, dry skin, loss of appetite, ulcers and emotional instability. On rare occasions people may experience severe deficiency which leads to a condition called pellagra.