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18/mhs03/013

Anatomy

1a) what are co enzymes

Co enzymes are non-protein compound that is necessary for the functioning of an enzyme.

1b) differentiate between fat and water soluble vitamins

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, Vitamin D deficiency has been reported as a growing public health concern. It has been associated with an increased risk of certain diseases. Fat-soluble vitamins include Vitamin A (palmitate form), Vitamin D, Vitamin E and Vitamin K.

Water-soluble vitamins dissolve in water, which means these vitamins and nutrients dissolve quickly in the body. Unlike fat-soluble vitamins, 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. Because these vitamins are needed by our bodies, we need to make sure we intake these vitamins on a regular basis. Water soluble vitamins include Vitamin C and the vitamin B complex: thiamin (B1), riboflavin (B2), niacin (B3), pantothenic acid (B5), Vitamin B6, biotin (B7), folic acid (B9), Vitamin B12. Vitamin A in its Beta-Carotene form is also water-soluble.

1c) niacin in relation to its co enzymic function

**Niacin** and nicotinamide are both precursors of the **coenzymes** nicotinamide adenine dinucleotide (NAD) and nicotinamide adenine dinucleotide phosphate (NADP) in vivo.

**Niacin** increases apolipoprotein A1 levels due to anticatabolic effects resulting in higher reverse cholesterol transport.