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QUESTION:

1. What are co enzymes
2. Differentiate between fat and water soluble vitamins
3. Describe niacin in relation to co enzyme

ANSWER

1. COENZYMES:

These are co factors ( additional non-protein or metallic ion component required by enzymes for their optimum activity) that are loosely bound to the enzyme. They are organic in nature

2. WATER SOLUBLE VITAMINS FAT SOLUBLE VITAMINS

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| Not soluble in fat. | Not soluble in water. |
| Absorption is simple. | Absorption of fat soluble vitamins occurs along with lipids and require bile salt. |
| No carrier protein is needed. | Carrier proteins are necessary. |
| No storage for water soluble vitamins. | Stored majorly in the liver. |
| Deficiency manifest rapidly as there is no storage. | Deficiency manifests when stores are depleted. |
| Toxicity is unlikely as excess is being excreted.  | Hypervitaminosis therefore there is a possibility of toxicity. |
| Regular dietary supply is required. | Treatment of deficiency involves single large doses.  |
| These vitamins includes vitamin b- complex and vitamin C. | These includes vitamin A, D, E & K. |

1. NIACIN AS A COENZYME:

This vitamin ( vitamin B3) can be found in two different forms

* Nicotinic acid ( converts niacin to NADP)
* Nicotinamide ( converts niacin to NAD)

These two substances are used by the body to form the co enzymes NAD and NADP. Niacin enzyme degrades carbohydrates, fats, proteins and alcohol and also synthesizes fatty acids and cholesterol.these NAD and NADP are co-enzymes for many hydrogen transfer process.