

Name: Anamelechi Ngozi Joy

Department: Medical laboratory science

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Vitamin and coenzyme assignment

1. Coenzymes are defined as an organic non-protein compound that binds with an enzyme to catalyze reaction.

1b) Differences between fat and water soluble vitamins

Fat soluble	Water soluble
Can be dissolved in fat or lipids	Not soluble in fat or lipid
Carrier proteins are present	No carrier protein required
Includes ADEK	Includes vitamin B-complex, B ₁ B ₂ B ₃ and B ₅
Stored majorly in the liver	It has no storage
Deficiency manifest only when stores are depleted	Deficiency manifest rapidly as there's no storage
Absorption of fat soluble vitamin occur along with lipids and require bile salt	Absorption simple

1c) The coenzyme form of nicotinic acid are nicotinamide adenine dinucleotide (NAD) and nicotinamide adenine dinucleotide phosphate (NADP). These compounds assist

dehydrogenase enzymes in the catabolism of fat, carbohydrates and amino acid and in the enzymes involved in synthesis of fats and steroids and other vital metabolites.