

Riboflavin.

Vit - B₂.

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Coachings provided.
www.FirstRanker.com

Riboflavin (Vitamin B₂) (Redox Rxns)

⇒ Chemically identical - Lactoflavin (milk)
Hepatoflavin (liver)
Ova-Ovoflavin (eggs)

Riboflavin through its coenzymes takes part in variety of cellular oxidation - Reduction Rxns.

Riboflavin is a 6-7 dimethyl isoalloxazine to which Ribitol is attached.

6-7 dimethyl isoalloxazine + Ribitol

Riboflavin + P

FMN + AMP

FAD

* Coenzymes of B₂ -

FMN = Flavin mononucleotide

FAD = Flavin Adenine

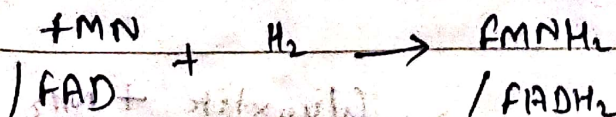
Dinucleotide

Biochemical functions

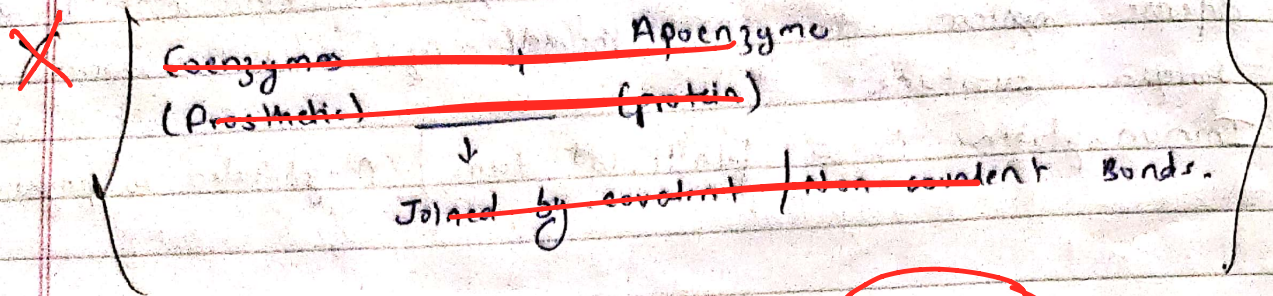
FMN & FAD = Flavin coenzymes

Functional unit of both = Isoalloxazine (accepts 2H)

produces energy by Redox Rxns



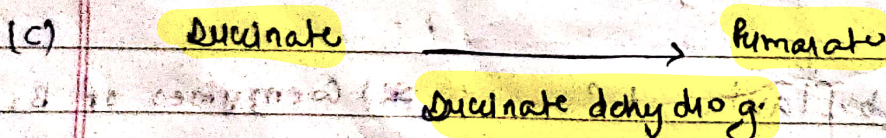
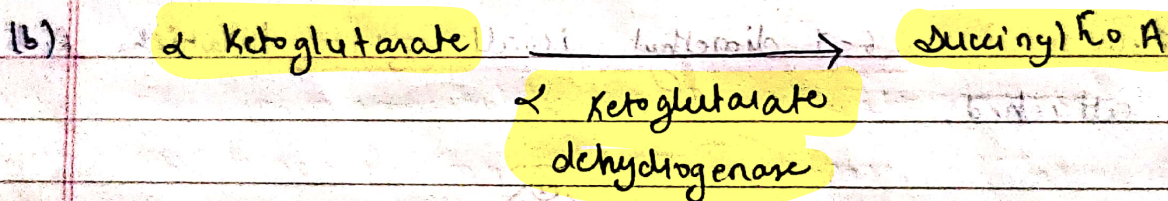
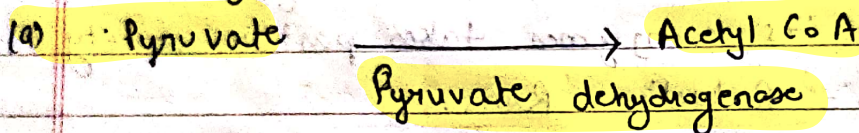
= Enzymes that use flavin coenzymes are flavo-proteins.



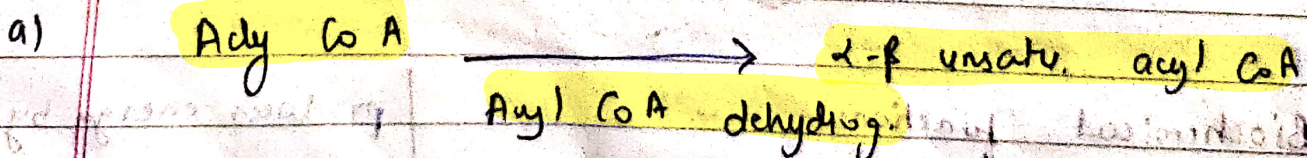
=> Metalloflavoproteins = Flavo proteins + Metal.

#1) FAD dependent Enzymes -

1) Carbohydrate Metabolism -



2) Lipid Metabolism -



b) ① amino acid

① Amino acid oxidase

→ α Keto acid + NH_3

4) Purine Meta.

Xanthine

Uric acid

Xanthine
oxidase

#) FMN — — —

L AA

L amino acid oxidase

→ α Keto acid + NH_3

⇒ Recommended Dietary Allowance — 1.2 - 1.7 mg / day

Pregnant / lactating f = 1.4 - 2.2 mg / day

Sources — Meat; Milk products, Milk, eggs, liver, kidney
Cereals, fruits, Vegetables, etc.

⇒ Deficiency symptoms —

- (i) cheilosis = (fissures at the corner of mouth)
- (ii) Glossitis = (soft & purple tongue)
- (iii) Dermatitis
- (iv) Stomatitis

Defi. is generally uncommon but mainly found with other vitamin defi.

Chronic Alcoholics are more chronic to Vit B₂ def.

⇒ Assay of enzyme Glutathione Reductase in RBC is useful in assessing Riboflavin deficiency.