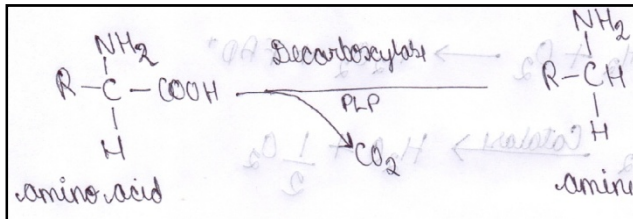


Decarboxylation of amino acids

This indicates the removal of carboxyl group from the amino acids. This reaction is carried out by enzyme amino acid decarboxylase. This enzyme is found in almost all the tissues but is abundant in liver, kidney and brain tissues. This enzyme requires pyridoxal phosphate (Active form of Vitamin B₆)



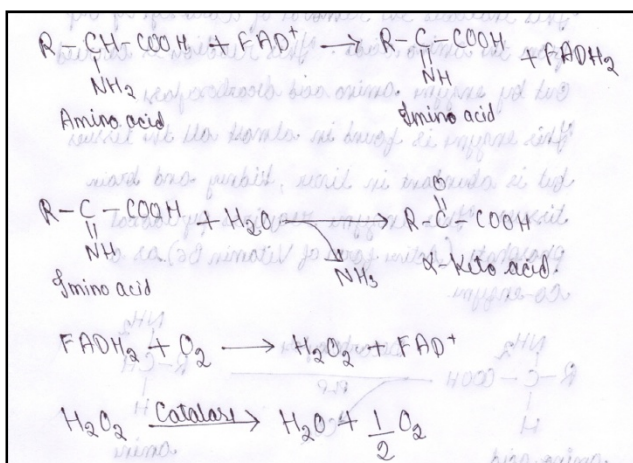
E.g. the decarboxylation of the amino acid histidine yields the amine called histamine.

Deamination of amino acids

The removal of amino group from the amino acids yielding ammonia is accomplished by two ways:

- Oxidative Deamination
- Non-oxidative Deamination.

The oxidative Deamination is performed by enzymes called amino acid oxidases. These enzymes are linked to FAD.

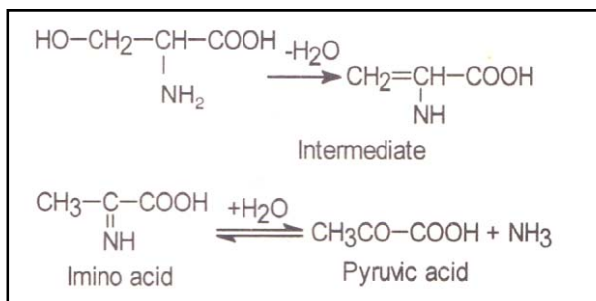


In this case the FADH_2 generated does not go to electron transport chain but the electrons are directly passed to molecular oxygen generating H_2O_2 that is toxic to body thus is broken down by the enzyme catalase to water.

In case of glutamic acid Deamination the enzyme is glutamic acid dehydrogenase that uses the co-enzyme NAD^+ or NADP^+ instead of FAD.

Non-oxidative Deamination

The hydroxy amino acids such as serine and threonine are first subjected to dehydration followed by spontaneous Deamination.



Deamination of sulphur containing amino acids

The sulphur containing amino acids are deaminated by first subjecting them to desulph-hydration (H_2S) followed by spontaneous removal of amino group as ammonia.

