

# Liver Enzymes :-

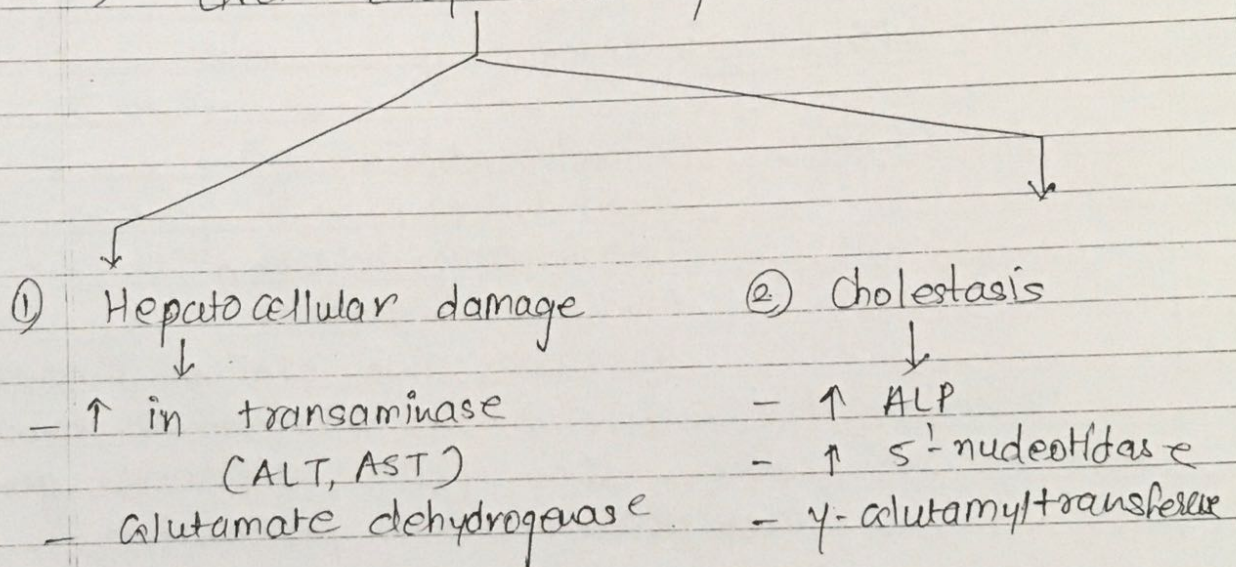
\* ALT :-

(Alanine Transaminase)

→ Liver enzymes include :-

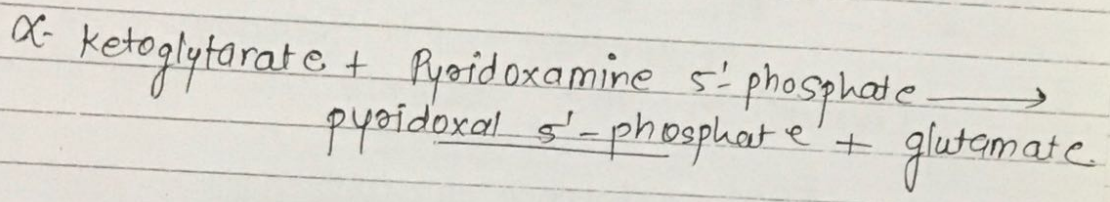
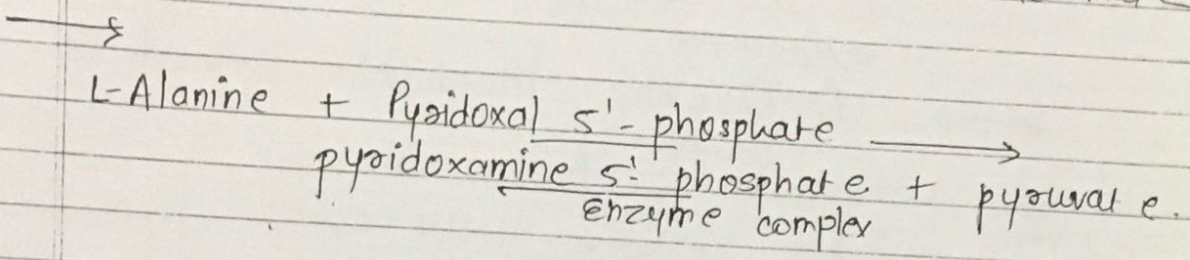
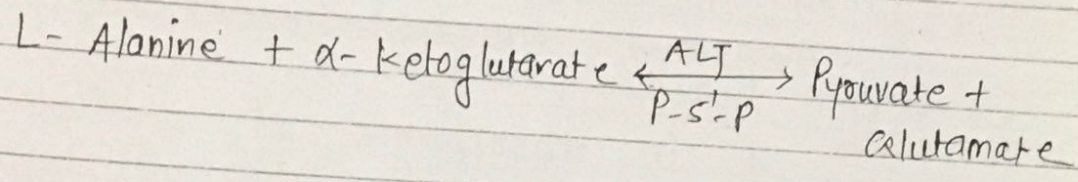
- ① ALT
- ② AST
- ③ Glutamate Dehydrogenase
- ④ ALP
- ⑤ Glutathione - S-transferase
- ⑥  $\gamma$ -glutamyltransferase
- ⑦  $\gamma$ -glutamyltransferase

→ Liver enzyme activity divide into



\* ALT :-

→ it catalyse interconversion of amino acid to  $\alpha$ -Oxo acids by transfer of amino group.



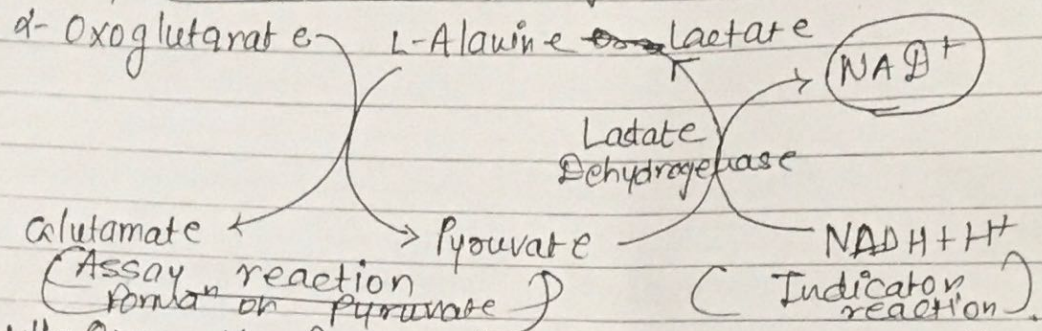
→ IFCC recommends addition of P-S-P in amino transferase method to ensure that all enzyme activities measure.

→ location :- mainly in liver & kidney.  
→ exclusively cytoplasmic.

\* → Methods for Measurement :-

① → formation / consumption of the oxo-acids is measured in the assay system.

① Enzymatic/UV monitoring :-



$\rightarrow$  the Oxo acid forms in the above reaction are measured indirectly by change in NADH concentration which is measured spectrophotometrically.

$\rightarrow$   $\downarrow$  in absorbance at  $340\text{ nm}$  is measured.

$\rightarrow$  Preliminary incubation period is given

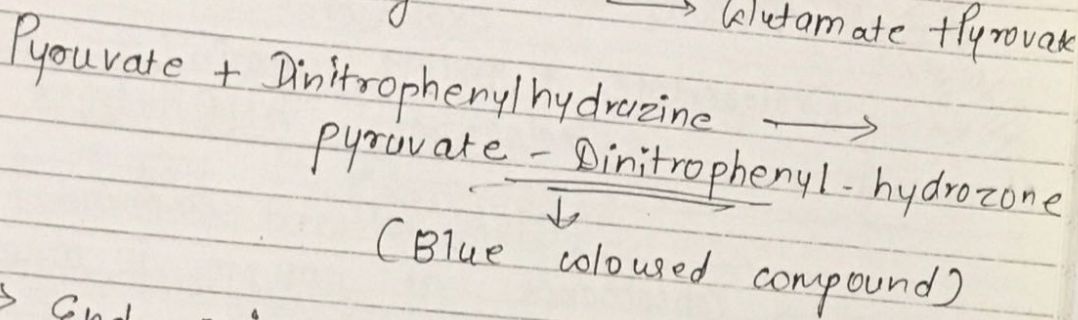
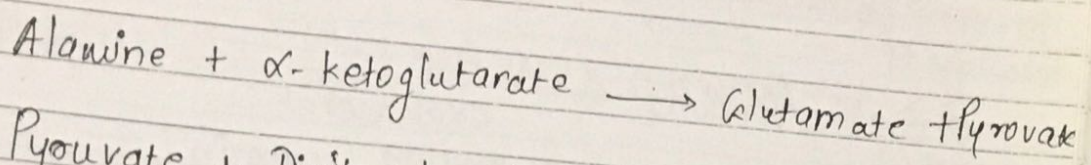
$\downarrow$   
to ensure that NADH dependant reduction of endogenous oxo acids (Pyruvate) in the sample is completed

$\rightarrow$  IFCC reference measurement procedure to measure catalytic activity of ALT at  $37^\circ\text{C}$   $\bar{c}$   $\text{RS}^{-1}\text{-p}$

\* Reference Interval :-

Male :  $< 60 \text{ U/L}$   
Female :  $< 42 \text{ U/L}$

\* ② Colorimetric :-



$\longrightarrow$  End - point method

$\longrightarrow$  measured at 505 nm.

$\longrightarrow$   $\alpha$ -kGA can produce hydrazone but the amount of colour produce by it is negligible.