

# Alanine Aminotransferase

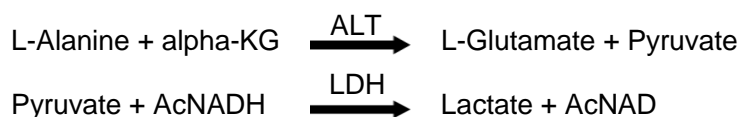
ALT/SGPT - AcNADH method

## Intended Use

For **IN VITRO** diagnostic use in the determination of **ALT** in serum using manual or automated applications.

## Method Principle

The Alanine Aminotransferase (ALT) enzyme catalyzes the conversion of L-Alanine and alpha-Ketoglutarate to L-glutamate and Pyruvate. The Pyruvate produced is then quantitatively determined by the LDH-AcNADH reaction. The decrease in absorbance due to the oxidation of AcNADH to AcNAD is monitored at 340 nm. The rate of decrease in absorbance of the reaction mixture is directly proportional to the ALT enzyme activity in the serum sample. The reaction scheme below illustrates the reactions that occur in this method.



## Method Performance Characteristics

**Sensitivity:** 0.0002 absorbance units per u/L.

**Linear Range:** 0 – 1000 U/L

**Precision:** Within-run and day-to-day precision is summarized below.

ALT	Within-Run Precision		Day-to-Day Precision	
	SD	CV	SD	CV
MEAN	U/L	%	U/L	%
27	0.9	3.3	1.2	4.4
79	1.2	1.5	1.5	1.9
348	6.4	1.8	7.2	2.1

## Correlation

A comparison of this method using an automated analyzer and a reference procedure based upon the recommendations of IFCC resulted in the following regression statistics:

Correlation Data	
Parameter	Data Observed
N	153
Range	30-665 U/L
Regression	$Y = 0.948x + 34$
Correlation	0.999
$S_{y,x}$	4.7