

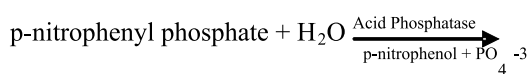
## Reagent kit for quantitative estimation of Acid Phosphatase.

### BACKGROUND & SYNOPSIS:

Acid phosphatase is widely distributed in organs like bone, liver, kidney, spleen, pancreas including leucocytes, platelets and red blood cells. In males after puberty, the enzymes are found in higher concentration in the prostate.

### PRINCIPLE:

Acid Phosphatase in the sample hydrolyses p-nitrophenyl phosphate into p-nitrophenol and phosphate in an acidic medium. Addition of alkali gives yellow colour, which is read photometrically at 405 nm.



p-nitrophenol + Alkali? Yellow colour.

The amount of p-nitrophenol liberated is proportional to the Acid phosphatase activity. For estimation of various fractions of Acid phosphatase selective inhibitors (like tartarate) are used.

### DIAGNOSTIC SIGNIFICANCE:

Acid phosphatase determination is used to detect prostatic carcinoma and to monitor its treatment. Increase in serum Acid phosphatase are uncommon in early stages of diseases but are more frequent when skeletal involvement is established. Acute urinary retention, prostatic palpation, Paget's disease, hyperparathyroidism. Gaucher's disease and breast carcinoma may show small increases.

### PRESENTATION

All reagents to be stored at 2-8°C **No. of bottles**

1 ACID PHOSPHATASE (SUBSTRATE)	10
2 ACID PHOSPHATASE (BUFFER)	1
3 ACID PHOSPHATASE (TARTARATE)	1
4 ACIDPHOSPHATSE (ALKALI REAGENT)	1
5 SAMPLE STABILIZER	1

### PRECAUTION:

ACID PHOSPHATASE is for IN VITRO use only.

### WORKING REAGENT PREPARATION:

Dissolve each tablet (substrate) in 2.5ml of 2ACID PHOSPHATSE. For quick dissolution, crush the tablet prior to the addition of buffer.

### REAGENT STORAGE & STABILITY:

All reagent are stable till the expiry date stated on the label at 2-8°C. The buffered substrate if not used on the same day, may be stored at 2-8°C for 3 days in an amber bottle.

### SPECIMEN COLLECTION:

Fresh, clear serum with no hemolysis is the specimen of choice. Anticogulants like oxalate and fluoride are inhibitors, hence use of heparin is preferred. Without addition of stabilizer, Acid phosphatase is stable in the sample only for one hour or less. Add required quantity of stabilizer to the sample (ten micro liters of sample stabilizer per ml of serum), which will stabilize Acid phosphatase for 7 days when stored at 2-8°C.

### PROCEDURE:

Use a sample blank for each sample. Discard the working reagent if it is yellow in colour and gives absorbance of 0.85 or more at 405nm.

PIPETTE INTO TEST TUBES	BLANK	TEST	
		TOTAL	TARTARATE
Working Reagent (ml)	1.0	1.0	1.0
3 Acid Phosphatase (ml)	-	-	0.05
Mix well and incubate for 3 minutes at 37° C			
Sample (ml)	-	0.1	0.1
Mix well and incubate for exactly 10 minutes at 37°C			
4 Acid Phosphatase (ml)	2.0	2.0	2.0
Sample (ml)	0.1		

Mix well and allow to stand at room temperature for 3 minutes. Read the absorbance of Total Acid Phosphatase (AT), tartarate inhibited Acid phosphatase (AI), and the blank (AB) at 405 nm, against distil water.

### TEST RESULTS:

- (i) Total Acid phosphatase (TAP) (IU/L)  
= (AT-AB) x F
- (ii) Tartarate Inhibited Acid phosphatase (TIP) (IU/L)  
= (AI-AB) x F
- (iii) Prostatic Acid phosphatase activity (IU/L)  
= (TAP) – (TIP)

Factor (F) = 174.7 (calculated on the basis of micromolar extinction co-efficient for p-nitrophenol and the ratio of total volume to sample volume).

### NORMAL VALUES:

- (1) Total Acid phosphatase : upto 11 IU/L
- (2) Prostatic Acid phosphatase : upto 4 IU/L

### REFERENCES:

- Bergmeyer HU, Methods of Enzymatic Analysis, Acad, Press, NY, 1974, p.856
- Committee of the Scandinavian Society for Clinical Chemistry and Clinical Physiology : Scand J Clin Lab Invest 33: 291, 1974.

**Angstrom Biotech Pvt.Ltd.**  
G1 - 1035, RIICO Industrial Area  
Phase - III, Bhiwadi,  
Alwar, Rajasthan.  
Pin Code - 301019  
Email: [info@angstrombiotech.in](mailto:info@angstrombiotech.in)  
Website: [www.angstrombiotech.in](http://www.angstrombiotech.in)  
Customer Care Number - 9599194831

	Attention, see instructions for use		Consult Instructions For Use
	For in vitro diagnostic use only		Catalog #
	Store between 2-8°C		Lot Number
	Do not use if package is damaged		Date of Manufacturing
	Manufacturer		Use by