Tribioscience

Acid Phosphatase Activity Colorimetric Assay

High-Sensitive Quantitation for Acid phosphatase Activity

Catalog Number	Kit Size
TBS2075-100	100 assays
TBS2075-200	200 assays

DESCRIPTION

Acid phosphatases (AP) dephosphorylate phosphate groups from phosphate esters under acid conditions. Different acid phosphatase isozymes are found in different organs, and their serum levels are used as a diagnostic index for disease in the corresponding organs. Elevated prostatic acid phosphatase levels may indicate the presence of prostate cancer and elevated tartrate-resistant acid phosphatase levels may indicate the bone disease.

Tribioscience's Acid Phosphatase Colorimetric Assay Kit provides a high-sensitive, simple, and direct assay approach to measure AP activity in serum and other samples. It is suitable for research and drug discovery. The kit uses p-nitrophenyl phosphate (pNPP) as a phosphatase substrate which turns yellow (λmax = 405 nm) when dephosphorylated by AP. The kit can detect as low as 20 µU acid phosphatase activity in samples.

APPLICATIONS

Direct Assays: Acid phosphatase in serum, plasma, urine, and other bio-samples.

KEY FEATURES

Flexible: Suitable for colorimetric assay.

Accurate: Use 50 µL samples. Detection ranges from 0.4-200 µU in a 96-well plate for colorimetric assay.

Simple and high-throughput: Just load-incubate-Read. The kit can be used for a robust method.

Time-saving: less than 30 minutes

KIT CONTENTS

Component	TBS2075-100	TBS2075-200
Assay Buffer	10mL	20 mL
Substrate	0.5mL	1 mL
Enzyme Standard Stock (2U/mL)	100 µL	200 µL
Stop Solution	10 mL	20 mL

STORAGE AND HANDLING

Store kit at -20°C. Shelf life of 1 year. Protect from light.

Precaution

Inhibitors of AP, such as tartrate, fluoride, EDTA, oxalate, and citrate, should be avoided in sample preparation.

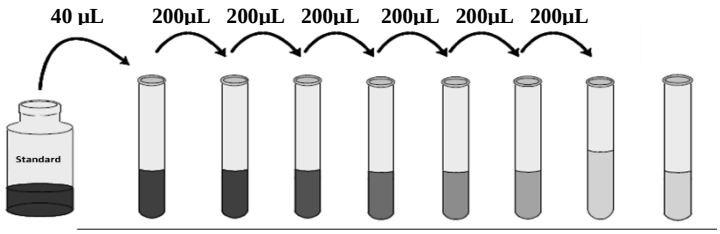
Sample Preparations

Sample Preparations: Serum, plasma, urine, semen, and cell culture media can be assayed directly. Cells (1×10^5) or tissue (~10 mg) can be homogenized in 150 µl Assay Buffer, centrifuge to remove insoluble material at 13,000g, 3 minutes. The supernatant can be used as test sample for the assay testing.

Standard Curve Preparations (Fig. 1)

1. Label 1.5mL tube from Std1 to 8. As below the diagram.
2. Add 360 µL of 1x Assay Buffer to Std1, and 200 µL to Std2 to 8.
3. Take 40 µL of 1U/mL AP Standard Stock solution to Std1, then make 2x series dilution from Std2 through Std7 by transferring 200µL to the next concentration, Std8 is 1x Assay Buffer alone as a standard 0. The standard concentration range is 200, 100, 50, 25, 12.5, 6.25, 3.125 µM, and 0.

Fig. 1 Diagram for AP Standard Preparation



	Std1	Std2	Std3	Std4	Std5	Std6	Std7	Std8
Assay Buffer (µL)	360	200	200	200	200	200	200	200
STD Addition	Stock	Std1	Std2	Std3	Std4	Std5	Std6	
Addition (µL)	40	200	200	200	200	200	200	
Final Conc (mU/mL	200	100	50	25	12.5	6.25	3.125	0

Assay Procedures

1. Add 45 µL of standard or sample to each well of a microplate in duplicate manner.
2. Add 5 µL substrate to each well, and incubate at room temperature for 15-60 minutes, protect from light.
3. Add50 µL Stop Solution to terminate the reaction, and fully mix.
4. Measure OD value at test wavelength of 405 nm, and a reference wavelength of 630 nm in a plater reader.

RELATED PRODUCTS

ATP Colorimetric/Fluorometric Assay (TBS2010)
ADP Colorimetric/Fluorometric Assay Kit (TBS2020)
Glucose Oxidase Colorimetric/Fluorometric Assay (TBS2088)
β-Hexosaminidase Activity Assay (TBS2105)
Cytochrome C Oxidase Activity Assay (TBS2115)
Glucose Determination Colorimetric/Fluorometric Assay (TBS2087)
Non-esterified Fatty Acid Assy (TBS2203)
Glycerol Colorimetric / Fluorometric Assy (TBS2204)
Caspase-3 Fluorometric Assay kit (TBS3230)
Tryptase Activity Assay (TBS2101)

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