

Pyrophosphate Assay Kit (Fluorometric) ab112155

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Overview

Product name	Pyrophosphate Assay Kit (Fluorometric)
Detection method	Fluorescent
Sample type	Urine, Serum, Plasma, Cell culture extracts, Adherent cells, Suspension cells, Tissue Lysate
Assay type	Quantitative
Product overview	Pyrophosphate Assay Kit (Fluorometric) ab112155 provides the most robust spectrophotometric method for the measurement of pyrophosphate.

The pyrophosphate assay protocol uses a proprietary fluorogenic pyrophosphate sensor that has its fluorescence intensity proportionally dependent upon the concentration of pyrophosphate.

This pyrophosphate assay protocol is much easier and more robust than enzyme-coupling pyrophosphate methods, which require at least two enzymes for their pyrophosphate detections. Due to its direct measurement of pyrophosphate, this kit is ideal for screening inhibition or activities of enzymes that consume or generate pyrophosphate.

The pyrophosphate assay is an optimized mix-and-read assay and can be performed in a convenient 96-well or 384-well microtiter-plate format.

Assay time: 10-30 minutes

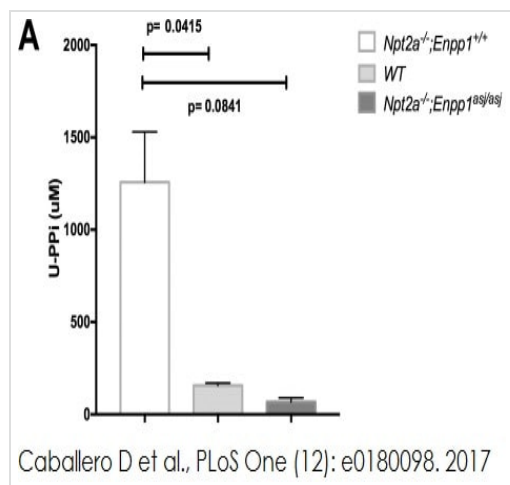
Notes	<p>This product measures PPI formation at Ex/Em = 316/456 nm.</p> <p>If your instrument has filters for Ex/Em = 370/470 nm, we recommend using <u>Pyrophosphate Assay Kit II (Fluorometric) (ab179836)</u>.</p> <p>Pyrophosphates (PPI) are produced by a number of biochemical reactions, such as ATP hydrolysis, DNA and RNA polymerizations, cyclic AMP formation by the enzyme adenylate cyclase and the enzymatic activation of fatty acids to form their coenzyme A esters.</p> <p>Samples such as plasma and serum might need a deproteinization step with spin columns</p>
Platform	Microplate reader

Properties

Storage instructions Store at -20°C. Please refer to protocols.

Components	2 x 96 tests
Assay Buffer	1 x 25ml
DMSO	1 x 200µl
PPi Sensor	1 vial
Pyrophosphate Standard (50mM)	1 x 1ml

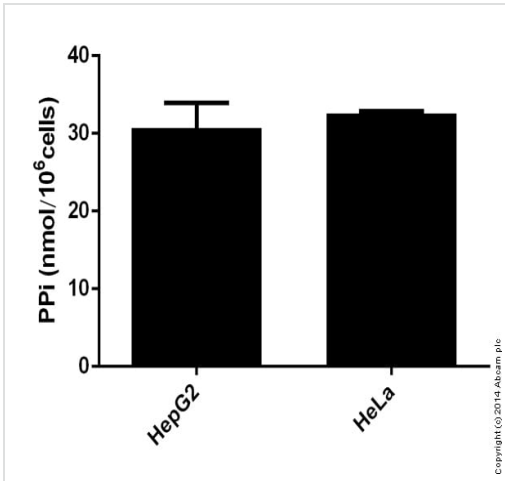
Images



Urine PPI was corrected for urine creatinine, which was measured by LC-MS/MS or by ELISA using appropriate controls to adjust for inter-assay variability.

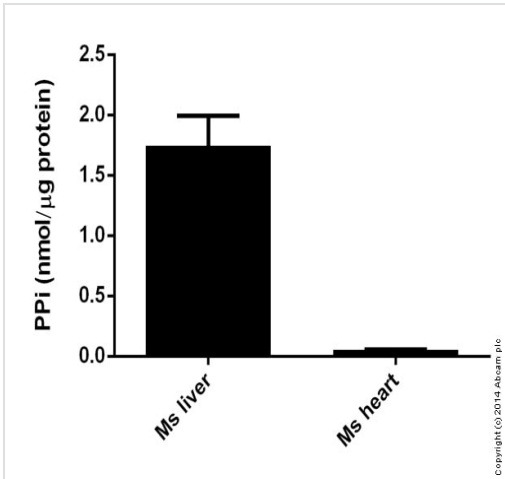
Urinary total pyrophosphate (PPi) concentrations were determined using ab112155

Caballero D et al., PLoS One, 12(7). Fig 1a. doi: 10.1371/journal.pone.0180098 Reproduced under the Creative Commons license <http://creativecommons.org/licenses/by/4.0/>



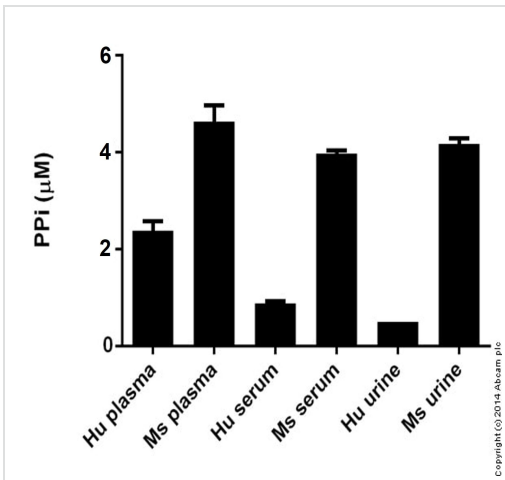
Pyrophosphate measured in cell lysates showing quantity (nmol) per 10⁶cells

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(Fluorometric) (ab112155)



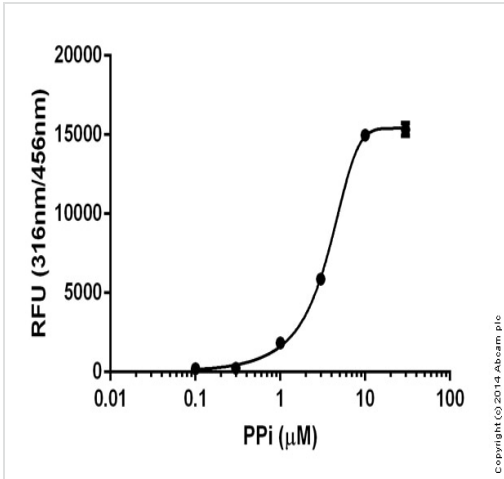
Pyrophosphate measured in tissue lysates showing quantity (nmol) per microgram protein

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Pyrophosphate measured in biofluids showing concentration (micromolar). Obtained values were recalculated from 1:1000 sample dilutions.

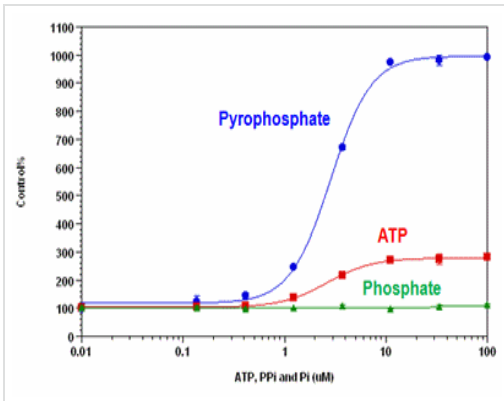
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Example PPI standard curve.

Data provided **for demonstration purposes only**.

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Pyrophosphate, ATP and phosphate dose responses were measured with ab112155 in a solid black 96-well plate using a fluorescence microplate reader. As low as 1 µM (100 picomoles/well) pyrophosphate can be detected with 10 minutes incubation.

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