**Product datasheet**

**Alkaline Phosphatase Assay Kit (Fluorometric) ab83371**

**Overview**

<table>
<thead>
<tr>
<th>Product name</th>
<th>Alkaline Phosphatase Assay Kit (Fluorometric)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Detection method</td>
<td>Fluorescent</td>
</tr>
<tr>
<td>Sample type</td>
<td>Saliva, Urine, Serum, Plasma, Other biological fluids, Tissue Extracts, Cell Lysate, Cell culture media</td>
</tr>
<tr>
<td>Assay type</td>
<td>Enzyme activity (quantitative)</td>
</tr>
<tr>
<td>Assay time</td>
<td>1h 00m</td>
</tr>
<tr>
<td>Species reactivity</td>
<td>Reacts with: Other species, Mammals</td>
</tr>
</tbody>
</table>

**Product overview**

Alkaline Phosphatase Assay Kit (Fluorometric) (ab83371) is a highly sensitive kit to detect alkaline phosphatase (ALP) activity in serum and other biological samples. In the alkaline phosphatase assay protocol, ALP cleaves the phosphate group of the non-fluorescent 4-Methylumbelliferyl phosphate disodium salt (MUP) substrate, resulting in an increased fluorescent signal (Ex/Em = 360nm/440nm) when the substrate is dephosphorylated.

The kit is an ultra sensitive, simple, direct and HTS-ready assay designed to measure ALP activity with a detection sensitivity ~1 µU, more sensitive than colorimetric assays.

**Notes**

Alkaline phosphatase (ALP) catalyzes the hydrolysis of phosphate esters in alkaline buffer and produces an organic radical and inorganic phosphate. The change in alkaline phosphatase level and activity is associated with many diseases in the liver and bones.

**Platform**

Microplate reader

**Properties**

**Storage instructions**

Store at -20°C. Please refer to protocols.
Relevance
Alkaline phosphatase (ALP) catalyzes the hydrolysis of phosphate esters in alkaline buffer and produces an organic radical and inorganic phosphate. Changes in alkaline phosphatase level and activity are associated with various disease states in the liver and bone.

Cellular localization
Cell membrane; Lipid-anchor, GPI-anchor.

Components

<table>
<thead>
<tr>
<th>Components</th>
<th>Identifier</th>
<th>500 tests</th>
</tr>
</thead>
<tbody>
<tr>
<td>ALP Assay Buffer</td>
<td>NM</td>
<td>1 x 100ml</td>
</tr>
<tr>
<td>ALP Enzyme (Lyophilised)</td>
<td>Green</td>
<td>1 vial</td>
</tr>
<tr>
<td>MUP Substrate</td>
<td>Red</td>
<td>1 vial</td>
</tr>
<tr>
<td>Stop Solution</td>
<td>WM</td>
<td>1 x 25ml</td>
</tr>
</tbody>
</table>

Relevance
Alkaline phosphatase (ALP) catalyzes the hydrolysis of phosphate esters in alkaline buffer and produces an organic radical and inorganic phosphate. Changes in alkaline phosphatase level and activity are associated with various disease states in the liver and bone.

Cellular localization
Cell membrane; Lipid-anchor, GPI-anchor.

Images

Effects of IL-17A and/or TNF-α on alkaline phosphatase activity are shown. hMSCs were plated at a density of $5 \times 10^3$ cell/cm$^2$, cells were cultured in osteogenic medium for 14 days, in the absence (0) or presence of TNF-α 1 ng/ml and/or IL-17A 50 ng/ml. ALP activity was measured by fluorometry using ab83371. Results were analyzed using the Wilcoxon test. □ $p < 0.05$; □□$p < 0.005$ vs. induction medium alone.

Functional Studies - Alkaline Phosphatase Assay Kit (Fluorometric) (ab83371)
Alkaline phosphatase measured in mouse tissue lysates showing activity (mU) per mg protein of tested sample.

Alkaline phosphatase measured in biological fluids showing quantity (mU) per microliter of tested sample.

4-Methylumbelliferone (4-MU) standard curve.

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