## Product Overview

<table>
<thead>
<tr>
<th>Product name</th>
<th>Creatine Assay Kit (Colorimetric/Fluorometric)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Detection method</td>
<td>Colorimetric/Fluorometric</td>
</tr>
<tr>
<td>Sample type</td>
<td>Cell culture supernatant, Urine, Serum, Plasma, Other biological fluids</td>
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<tr>
<td>Assay type</td>
<td>Quantitative</td>
</tr>
<tr>
<td>Sensitivity</td>
<td>&gt; 0.001 mM</td>
</tr>
<tr>
<td>Range</td>
<td>0.001 mM - 10 mM</td>
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<tr>
<td>Assay time</td>
<td>1h 00m</td>
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<tr>
<td>Species reactivity</td>
<td>Reacts with: Mammals, Other species</td>
</tr>
<tr>
<td>Product overview</td>
<td>Creatine Assay Kit (Colorimetric/Fluorometric) (ab65339) provides an accurate, convenient measure of creatine in a variety of biological samples.</td>
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</tbody>
</table>

In the creatine assay protocol, creatine is enzymatically converted to sarcosine which is then specifically oxidized to generate a product that converts a colorless probe to an intensely red color (\( \lambda_{\text{max}} = 570 \text{ nm} \)), and highly fluorescent (Ex/Em = 538/587 nm) product. Creatine is therefore easily detected by either colorimetric or fluorometric methods. Detection range 0.001–10 mM Creatine.

Creatine assay protocol summary:
- add reaction mix to sample and standard wells
- incubate for 60 min
- analyze with a microplate reader

### Notes

Creatine is an endogenous compound whose function is to maintain a high ATP/ADP ratio, by way of its phosphorylated form and creatine kinase. Creatine supplementation has been used in the treatment of muscular, neurological and neurodegenerative diseases, as well as a sport performance enhancer. Detection of creatine level has wide applications in research and development.

### Platform

Microplate reader

### Storage instructions

Store at -20°C. Please refer to protocols.
Creatine is an endogenous amino acid that occurs in vertebrate tissues and in urine. In muscle tissue, creatine is generally found as its phosphorylated form phosphocreatine. Creatine functions as part of the cell's energy shuttle: the high energy phosphate group of ATP is transferred to creatinine to form phosphocreatinine in the following reaction: Cr + ATP $\rightarrow$ P-Cr + ADP. This reaction is reversibly catalyzed by creatine kinase. In the human body, creatine is synthesized mainly in the liver from arginine, glycine and methionine. Creatine is excreted as creatinine in the urine.

**Images**

Creatine measured in cell lysates showing quantity (nmol) per $10^6$ cells
Creatine measured in biologicals showing concentration (micromolar)

Please note: All products are "FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC PROCEDURES"

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