Creatinine Assay Kit ab65340 provides an accurate, convenient measure of creatinine concentration in biological fluids such as serum, urine or CSF.

In the creatinine assay protocol, creatinine is converted to creatine by creatinase, creatine is converted to sarcosine, which is specifically oxidized to produce a product which reacts with a probe to generate red color ($\lambda_{	ext{max}} = 570$ nm) and fluorescence ($\text{Ex}/\text{Em} = 538/587$ nm).

Unlike picric acid assays, this kit is suitable for serum/plasma creatinine determinations, as well as for urine and other biological samples.

Creatinine assay protocol summary:
- add samples and standards to wells
- add reaction mix and incubate for 60 min at 37°C
- analyze with microplate reader

For deproteinization of samples: Better results are typically seen with this assay when using a 10kda filter for sample deproteinization than when using the PCA method.

Platform
Microplate reader

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

<table>
<thead>
<tr>
<th>Components</th>
<th>Identifier</th>
<th>100 tests</th>
</tr>
</thead>
<tbody>
<tr>
<td>Creatinase (Lyophilized)</td>
<td>Blue</td>
<td>1 vial</td>
</tr>
<tr>
<td>Creatininase (Lyophilized)</td>
<td>Violet</td>
<td>1 vial</td>
</tr>
</tbody>
</table>
Creatinine, or creatine anhydride, is a breakdown product of creatine phosphate in muscle. The loss of water molecule from creatine results in the formation of creatinine. Creatinine is transferred to the kidneys by blood plasma, whereupon it is eliminated from the body by glomerular filtration and partial tubular excretion. Creatinine is usually produced and excreted at a fairly constant rate, and blood creatinine is used to determine glomerular filtration rate (GFR), a measure of kidney function.

Components

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<tr>
<td>Creatinine Standard (10 µmol) (Lyophilized)</td>
<td>Yellow</td>
<td>1 vial</td>
</tr>
<tr>
<td>Creatinine Assay Buffer</td>
<td>WM</td>
<td>1 x 25ml</td>
</tr>
<tr>
<td>Creatinine Enzyme Mix (Lyophilized)</td>
<td>Green</td>
<td>1 vial</td>
</tr>
<tr>
<td>Creatinine Probe in DMSO (200µl)</td>
<td></td>
<td>1 x 200µl</td>
</tr>
</tbody>
</table>

Relevance

Creatinine, or creatine anhydride, is a breakdown product of creatine phosphate in muscle. The loss of water molecule from creatine results in the formation of creatinine. Creatinine is transferred to the kidneys by blood plasma, whereupon it is eliminated from the body by glomerular filtration and partial tubular excretion. Creatinine is usually produced and excreted at a fairly constant rate, and blood creatinine is used to determine glomerular filtration rate (GFR), a measure of kidney function.

Images

Mice were injected i.p. with 6-ECDCA before I/R injury. At 24 h after I/R, kidney, serum and urine samples were collected for measurements of creatinine in serum with ab65340

Standard curve: mean of duplicates (+/- SD) with background reads subtracted
Functional Studies - Creatinine Assay Kit (ab65340)

Standard curve: mean of duplicates (+/- SD) with background reads subtracted.

Creatinine measured in mouse and human serum plotted against RFU. Samples were diluted 5-10 fold.

Creatinine measured in mouse and human urine plotted against RFU. Samples were diluted 400-800 fold.

Creatinine levels in filtered human urine was measured in the presence or absence of creatininase (background signal subtracted).

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