**Glycogen Assay Kit ab65620**

**Overview**

**Product name** | Glycogen Assay Kit  
**Detection method** | Colorimetric/Fluorometric  
**Sample type** | Cell culture supernatant, Urine, Other biological fluids, Tissue  
**Assay type** | Quantitative  
**Sensitivity** | > 0.4 µg/ml  
**Range** | 0.4 µg/ml - 2000 µg/ml  
**Assay time** | 1h 00m  

**Product overview**

Glycogen Assay Kit ab65620 is an easy and accurate assay to measure glycogen levels in biological samples. In the glycogen assay protocol, glucoamylase hydrolyzes the glycogen to glucose which is then specifically oxidized to produce a product that reacts with OxiRed probe to generate color (570 nm) and fluorescence (Ex 535/Em 587). The assay can detect glycogen 0.0004 to 2 mg/ml.

Glycogen assay protocol summary:
- add samples and standards to wells
- add hydrolysis enzyme mix and incubate for 30 min
- add reaction mix and incubate for 30 min
- analyze with microplate reader

If your sample is likely to contain reducing substances, we recommend using Glycogen Assay Kit II (ab169558), as reducing substances may interfere with the assay detection method.

**Notes**

Review our Metabolism Assay Guide to learn about assays for metabolites, metabolic enzymes, mitochondrial function, and oxidative stress, and also about how to assay metabolic function in live cells using your plate reader.

**How other researchers have used Glycogen Assay Kit ab65620**

The glycogen assay kit has been used in publications in a variety of sample types, including:
- Human: muscle tissue  
- Mouse: muscle tissue lysates, muscle and liver tissue, liver, cultured muscle myotubes, astrocyte primary cell lysates,  
- Rat: liver, neuron-astrocyte co-cultures  
- Bacteria: *M. buryatense*, *Haemophilus influenzae*

Platform

Microplate reader

Properties

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

Storage buffer
Preservative: None
Constituents: 0.1% Triton-X-100, DMSO

<table>
<thead>
<tr>
<th>Components</th>
<th>Identifier</th>
<th>100 tests</th>
</tr>
</thead>
<tbody>
<tr>
<td>Development Buffer</td>
<td>WM</td>
<td>1 x 25ml</td>
</tr>
<tr>
<td>Development Enzyme Mix (lyophilized)</td>
<td>Green</td>
<td>1 vial</td>
</tr>
<tr>
<td>Glycogen Standard (2.0 mg/ml)</td>
<td>Yellow</td>
<td>1 x 100µl</td>
</tr>
<tr>
<td>Hydrolysis Buffer</td>
<td>NM</td>
<td>1 x 25ml</td>
</tr>
<tr>
<td>Hydrolysis Enzyme Mix (lyophilized)</td>
<td>Blue</td>
<td>1 vial</td>
</tr>
<tr>
<td>OxiRed Probe</td>
<td>Red</td>
<td>1 x 200µl</td>
</tr>
</tbody>
</table>

Relevance
Glycogen is the primary short term energy storage molecule in animals. It is synthesized primarily in the liver and muscle. Glycogen is a highly branched polymer of glucose molecules, connected with an alpha-1,4 linkage, branching via an alpha-1,6 linkage. Abnormal ability to utilize glycogen is found in diabetes and in several genetic glycogen storage diseases.

Images
Total glycogen levels in C576bL6 mice astrocytes were determined by using Glycogen assay kit (ab65620). At 24 hours following OGD-reoxygenation, astrocytes had less glycogen levels compared to normoxia control. Astrocytes treated with Methylene blue (MB) showed a higher glycogen content compared to non-MB treated, OGD-reoxygenation astrocytes. * p < 0.05; ## p < 0.001 Vs. OGD-reoxygenation control / 0 μM MB.

Example of fluorometric standard curve using Glycogen Assay Kit (ab65620).

Measurement of glycogen in various mouse tissues using Glycogen Assay Kit (ab65620).
Glycogen concentration measured in MBA-MB-231 cells (human breast adenocarcinoma cell line). $10^6$ cells were prepared following protocol instructions, and several dilutions were measured using fluorometric detection.

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