**Triglyceride Assay Kit - Quantification  ab65336**

**Overview**

**Product name**  
Triglyceride Assay Kit - Quantification

**Detection method**  
Colorimetric/Fluorometric

**Sample type**  
Urine, Serum, Plasma, Other biological fluids, Tissue Extracts, Cell Lysate

**Assay type**  
Quantitative

**Sensitivity**  
> 2 µM

**Assay time**  
1h 20m

**Product overview**  
Triglyceride Assay Kit (ab65336) is a sensitive, easy assay to measure triglyceride concentration in mammalian samples. In the triglyceride assay protocol, triglycerides are converted to free fatty acids and glycerol. Glycerol is then oxidized to generate a product which reacts with a probe to generate color (spectrophotometry at λ = 570 nm) and fluorescence (Ex/Em = 535/587 nm).

Triglyceride assay protocol summary:
- add samples and standards to wells
- add assay buffer and lipase, and incubate for 20 min
- add triglyceride reaction mix and incubate for 60 min
- analyze with microplate reader

Please note: The General Range is 0-10 nmol (colorimetric) and 0-1 nmol (fluorometric).

If your sample contains reducing substances such as glucose, fructose or lactose, they are likely to interfere with the assay. In this case, we recommend using Triglyceride Assay Kit (Fluorometric, Reducing samples) ab178780.

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.

**Notes**

**How other researchers have used Triglyceride Assay Kit ab65336**

The Triglyceride assay kit has been used in publications in a variety of sample types, including:
- Human: serum\(^1\), plasma\(^2\), mammary epithelial and mammary cancer cell line lysate\(^3\), Huh7.5 hepatocyte-derived cell line lysate\(^4\), primary liver cell line lysates\(^5\), sebocyte cell culture lysates\(^6\)
- Mouse: hepatocyte cell lysates\(^7\), liver extract\(^8\), serum\(^9\), plasma\(^10\), kidney extracts\(^11\), liver tissue and serum\(^12\), cardiac tissue extracts\(^13\)
- Rat: liver tissue extract\(^14\), plasma\(^15\)
- Drosophila


**Platform**

Microplate reader

**Properties**

**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>Lipase</td>
<td>Blue</td>
<td>1 vial</td>
</tr>
<tr>
<td>Triglyceride Assay Buffer</td>
<td></td>
<td>1 x 25ml</td>
</tr>
<tr>
<td>Triglyceride Enzyme Mix (lyophilized)</td>
<td>Green</td>
<td>1 vial</td>
</tr>
<tr>
<td>Triglyceride Probe (in DMSO, anhydrous)</td>
<td>Red</td>
<td>1 x 200µl</td>
</tr>
<tr>
<td>Triglyceride Standard (1 mM)</td>
<td>Yellow</td>
<td>1 x 300µl</td>
</tr>
</tbody>
</table>

**Relevance**

Triglycerides are the main constituent of vegetable oil, animal fat, LDL and VLDL, and play an important role as transporters of fatty acids as well as serving as an energy source. Triglycerides are broken down into fatty acids and glycerol, after which both can serve as substrates for energy producing and metabolic pathways. High blood levels of triglycerides are implicated in atherosclerosis, heart disease and stroke as well as in pancreatitis.

**Images**

Hepatic triglyceride levels was measured using ab65336 in male and female wild-type (WT) or AT2KO (knockout) mice with either normal diet (ND) or high fat diet (HFD).

**References:**

1. Huang Y et al. 2019
2. Wilson et al. 2018
3. Yem MC et al. 2019
4. Kim D et al. 2018
5. Boteon Y et al. 2018
6. Jin S and Lee MY 2018
7. Brial F et al. 2019
8. Zhang et al. 2019
11. Ding W et al. 2018
12. Cui X et al. 2018
13. Rohm Met et al. 2018
14. Yu S et al. 2018
15. Garcia-Ruiz et al. 2018
16. Wen CA and Ballard JWO 2019
Fluorometric triglyceride standard curve: mean of duplicates (+/- SD) with background reads subtracted

Triglyceride measured in cell culture lysates showing quantity (nmol) per 1 mln cells.

Samples with the concentration of 1e7 cells/mL were used.

Samples were diluted 40-80 fold and measured fluorometrically.

HepG2 cells were treated with 25 μM Chloroquine for 72h.

Colorimetric triglyceride standard curve using ab65336.

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