**Proteasome Activity Assay Kit**

<table>
<thead>
<tr>
<th>Product name</th>
<th>Proteasome Activity Assay Kit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Detection method</td>
<td>Fluorescent</td>
</tr>
<tr>
<td>Sample type</td>
<td>Cell Lysate</td>
</tr>
<tr>
<td>Assay type</td>
<td>Enzyme activity</td>
</tr>
<tr>
<td>Assay time</td>
<td>1h 00m</td>
</tr>
<tr>
<td>Species reactivity</td>
<td>Reacts with: Other species, Mammals</td>
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</tbody>
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### Product overview

Proteasome Activity Assay Kit (ab107921) takes advantage of the chymotrypsin-like activity, using an AMC-tagged peptide substrate (Proteasome Substrate (Succ-LLVY-AMC in DMSO)), which releases free, highly fluorescent AMC (Ex/Em 350/440 nm) in the presence of proteolytic activity.

The kit also includes a positive control (Jurkat Cell lysate with significant proteasome activity) and a specific proteasome inhibitor MG-132 which suppresses all proteolytic activity due to proteasomes. This permits differentiation of proteasome activity from other protease activity which may be present in samples.

Proteasome activity assay protocol summary:
- add samples, standards and positive control to wells
- add proteasome inhibitor to half of sample and positive control wells
- add proteasome substrate to sample and control wells
- incubate for 20 min
- analyze with microplate reader, incubate for further 30 min, analyze again

### Notes

The 20S proteasome assembly is the functional protease structure with chymotrypsin-like, trypsin-like and caspase-like protease activities.

Abcam has not and does not intend to apply for the REACH Authorisation of customers’ uses of products that contain European Authorisation list (Annex XIV) substances. It is the responsibility of our customers to check the necessity of application of REACH Authorisation, and any other relevant authorisations, for their intended uses.

### Platform

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

**Storage buffer**
Preservative: None
Constituents: DMSO

<table>
<thead>
<tr>
<th>Components</th>
<th>Identifier</th>
<th>100 tests</th>
</tr>
</thead>
<tbody>
<tr>
<td>AMC Standard (1mM in DMSO)</td>
<td>Yellow</td>
<td>1 x 100µl</td>
</tr>
<tr>
<td>Positive Control (lyophilized)</td>
<td>Green</td>
<td>1 vial</td>
</tr>
<tr>
<td>Proteasome Substrate (in DMSO)</td>
<td>Red</td>
<td>1 x 100µl</td>
</tr>
<tr>
<td>Proteasome Assay Buffer</td>
<td>WM</td>
<td>1 x 25ml</td>
</tr>
<tr>
<td>Proteasome Inhibitor (in DMSO)</td>
<td>Blue</td>
<td>1 x 100µl</td>
</tr>
</tbody>
</table>

**Images**

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

Functional Studies - Proteasome Activity Assay Kit (ab107921)

Proteasome Activity measured in Jurkat lysate

Functional Studies - Proteasome Activity Assay Kit (ab107921)
Proteasome Activity measured in HeLa lysate

![Graph showing proteasome activity over time](image1)

Proteasome Activity measured in cell lysates showing activity (mU) per 1 mln cells.

Samples with the concentration of 3.3e6 cells/mL were used. 50 μl of each sample was used.

![Graph comparing proteasome activity in Jurkat and HeLa](image2)

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