## Overview

<table>
<thead>
<tr>
<th><strong>Product name</strong></th>
<th>Proteasome Activity Assay Kit</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Detection method</strong></td>
<td>Fluorescent</td>
</tr>
<tr>
<td><strong>Sample type</strong></td>
<td>Cell Lysate</td>
</tr>
<tr>
<td><strong>Assay type</strong></td>
<td>Enzyme activity</td>
</tr>
<tr>
<td><strong>Assay time</strong></td>
<td>1h 00m</td>
</tr>
</tbody>
</table>

### Species reactivity

**Reacts with:** Other species, Mammals

### 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

### Platform

Microplate reader

### Properties

<table>
<thead>
<tr>
<th><strong>Storage instructions</strong></th>
<th>Store at -20°C. Please refer to protocols.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Storage buffer</strong></td>
<td>Preservative: None</td>
</tr>
<tr>
<td></td>
<td>Constituents: DMSO</td>
</tr>
</tbody>
</table>
Components | Identifier | 100 tests
--- | --- | ---
AMC Standard (1mM in DMSO) | Yellow | 1 x 100μl
Positive Control (lyophilized) | Green | 1 vial
Proteasome Substrate (in DMSO) | Red | 1 x 100μl
Proteasome Assay Buffer | WM | 1 x 25ml
Proteasome Inhibitor (in DMSO) | Blue | 1 x 100μl

Images

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

Proteasome Activity measured in Jurkat lysate
Proteasome Activity measured in HeLa lysate

![Proteasome Activity in HeLa lysate graph](image)

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.

![Proteasome Activity in cell lysates bar chart](image)

**Please note:** All products are “FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC PROCEDURES”

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