Collagenase Activity Test Kit

For use in quality control/manufacturing process only.

When using proteases for treatment of cells or proteins, the enzymatic activity needs to be determined in the process optimization and for process control. This is essential to develop an efficient protocol that yields the highest possible number of viable cells for further use.

The Collagenase Activity Test kit provides quantitative determination of the activity of Collagenase I, Collagenase II, and blends thereof (Liberase Enzyme Blends from Roche). The test is based on the enzymatic hydrolysis of FALGPA substrate (N-(3-[2-Furyl]acryloyl)-Leu-Gly-Pro-Ala), which can be measured photometrically by a decrease in absorbance at 340 nm. The kit is designed for testing in 96-well flat-bottom plates with a plate reader suitable for dynamic absorbance measurements.

The Collagenase Activity Test kit features:

- **Reliability**
  Accurate and reproducible results due to included calibration standards and high lot-to-lot consistency of the kit.

- **Convenience**
  Solutions of FALGPA substrate and Collagenase standards are ready-to-use; no manual preparation of solutions or extraction of dyes needed.

- **High sensitivity**
  Limit of detection: 0.32 FALGPA Units/ml.

- **Fast turnaround time**
  Time-to-result: 30 minutes.

**Test characteristics**

<table>
<thead>
<tr>
<th>Measuring range</th>
<th>0.32 – 1.15 FALGPA Units/ml ¹</th>
</tr>
</thead>
<tbody>
<tr>
<td>Precision</td>
<td>≤ 15% (typically &lt; 10%)</td>
</tr>
<tr>
<td>Specificity</td>
<td>Collagenases I and II from Clostridium histolyticum</td>
</tr>
<tr>
<td>Assay time</td>
<td>30 min approximately</td>
</tr>
<tr>
<td>Test format</td>
<td>96-well plate, absorption at 340 nm</td>
</tr>
</tbody>
</table>

**Test procedure**

In every test run, the Collagenase Standards from the kit are run on the same plate for calibration of the test. 5 µl of FALGPA Substrate are added to 95 µl of the samples and calibrators, mixed, and measured on a plate reader for 10 min. The activities of the samples are calculated by linear regression of the calibrator values.

**Comparability**

The FALGPA Units of this test are proportional to other units for collagenase activity determination like Wünsch Units\(^2\). The correlation between the units is different for Collagenase type I and II.


**Conversion factors from Wünsch Units to FALGPA Units:**

<table>
<thead>
<tr>
<th>Enzyme</th>
<th>Factor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Collagenase I</td>
<td>9.1</td>
</tr>
<tr>
<td>Collagenase II</td>
<td>2.7</td>
</tr>
<tr>
<td>Liberase Blend</td>
<td>3.0</td>
</tr>
</tbody>
</table>

**Specificity**

This test is highly specific for Collagenases I and II from Clostridium histolyticum. No influence on the test result could be observed by the following proteases:

- Thermolysin
- Trypsin
- Chymotrypsin
- Dispase
- Elastase

**Regulatory disclaimer**

* For use in quality control/manufacturing process only.
** For blended proteolytic enzyme for tissue dissociation. For further processing only.
*** For life science research only. Not for use in diagnostic procedures.

*custombiotech.roche.com*

**Ordering Information**

<table>
<thead>
<tr>
<th>Product</th>
<th>Catalog number</th>
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<tbody>
<tr>
<td>Collagenase Activity Test *, 96 reactions</td>
<td>08 074 461 001</td>
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<table>
<thead>
<tr>
<th>Related products</th>
<th>Catalog number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residual Protein Liberase Kit *, 96 reactions</td>
<td>07 758 693 001</td>
</tr>
<tr>
<td>Liberase MNP-S **, 35 mg</td>
<td>05 578 566 001</td>
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<tr>
<td>Liberase MNP-S GMP Grade **, 5 mg</td>
<td>06 297 790 001</td>
</tr>
<tr>
<td>Liberase MTF C/T GMP Grade **, 2 x 500 mg</td>
<td>05 339 880 001</td>
</tr>
<tr>
<td>Liberase T-Flex Research Grade***, 500 mg</td>
<td>05 989 132 001</td>
</tr>
</tbody>
</table>

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