

ProteaZ Zymplate®



ProteaZ Zymplate® is a 96-well plate containing protease activity sensor made from casein from bovine milk. ProteaZ Zymplate® was designed by ZYMOPTIQ® to enable accurate and reproducible measurements of protease-containing samples.

Assay principle & compatibility

ProteaZ Zymplate® integrates advanced enzymatic sensors within a 96-well microplate format. ProteaZ Zymplate® is fully compatible with the Zymocube® reader and, coupled with the intuitive Zymosoft® software, it offers automated data acquisition, analysis, and result calculation for high-throughput enzymatic testing and final product validation.

Application

ProteaZ Zymplate® is ideal for protease activity measurement across various industries - from infant formula and dairy to baking, feed and detergent applications. With great sensitivity, it enables detection of residual enzymatic activity in complex formulations, supporting R&D, process control and final product validation.

Technical specification

Versatility for any conditions

- ProteaZ enables high-throughput protease activity testing.
- Designed for robustness and flexibility, ProteaZ performs under a wide range of conditions (pH 3.0–9.0, 4–80°C) and accepts colored or particle-rich samples, without centrifugation or filtration, saving time and simplifying workflows.
- Reusable up to 4 times within a month and stable for 12 months, it is both efficient and economical.

Storage & Expiration date

Store at 10–25°C in its original packaging (blister under vacuum), in a clean, dry place away from direct sunlight. The expiration date is on the label. Use beyond this date may affect performance.

Examples of compatible enzymes

Trypsin, Subtilisin, Papain, Mucorpepsin, Bacillolysin, Aqualysin.

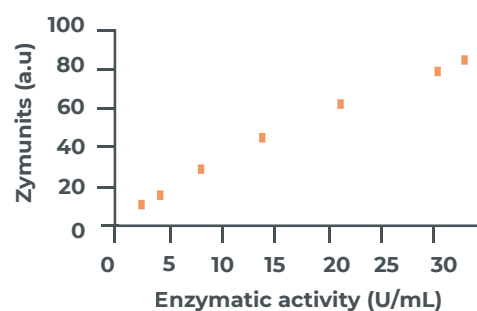
Metrological performance

Each batch of ProteaZ Zymplate® is rigorously tested for accuracy.

The mid-range activity, defined as the enzyme concentration needed to produce a signal of 50 zu, is experimentally determined using trypsin (Sigma Aldrich, T4799) incubated for 30 min at 37°C in sodium-phosphate buffer 100 mM containing 0.5 g/L BSA, pH 7.5 (mid-range activity is typically between 13 – 20 U/mL).

Performance is evaluated in terms of relative standard deviation (RSD) and relative bias to the theoretical value. Both RSD and bias must be below 10%, ensuring consistent and reliable results.

Example of calibration curve



Zymplate® range

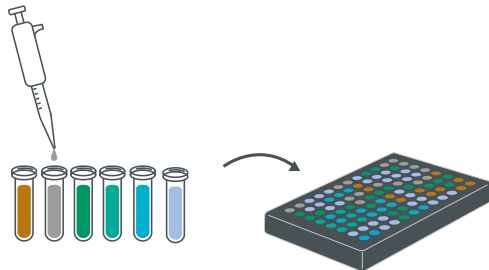
96 measurements in less than 2 hours with a streamlined 4-step protocol

Ready-to-use 96-well plate, with substrate included: Zymplate®.

Use raw samples, non-purified extracts or enzymatic cocktails: no sample preparation is required.

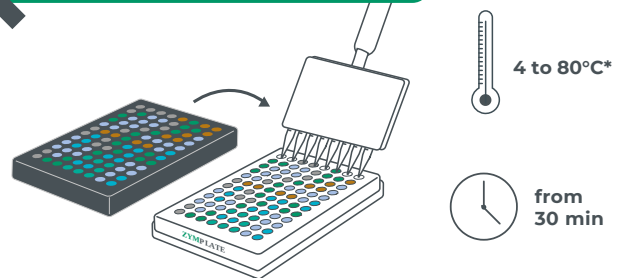
Samples that can be used: liquid, powder, see-through, colored, cloudy, unfiltered.

1 Sample and transfer-plate preparation



- Prepare your samples with enzymes (standard and samples) in buffer.
- Use the buffer or matrix without enzyme as negative control.
- Prepare your transfer plate (96 -well) according to your chosen layout.

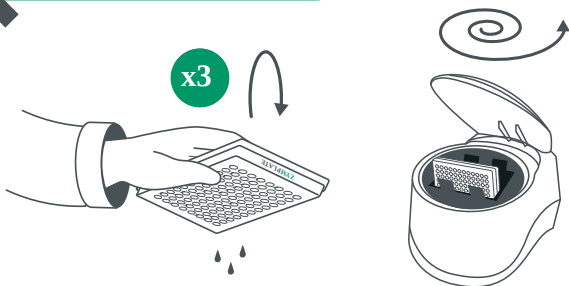
2 Reaction start and incubation



- Take the Zymplate® out of its package.
- Transfer your enzyme solutions to the Zymplate® using a multi-channel pipette.
- Seal the plate and incubate in the desired conditions.

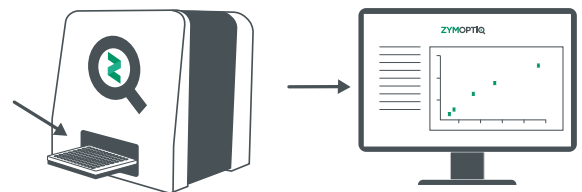
*see sensor specification

3 Reaction end and drying



- Take out the plate, remove the seal and empty it.
- Rinse thoroughly with de-ionized water (thrice).
- Dry by centrifuging the plate upside down.

4 Reading and results



- Scan the plate QR-code and image it with the Zymcube®.
- All 96 positions are read in 15 minutes.
- Get your results!



Recycling-waste disposal At Zymoptiq®, we are committed to sustainability. Zymplate® components are recyclable and we actively support responsible recycling by offering to manage the process for you. Otherwise, please dispose of Zymplate® in appropriate bins following local regulations.

Discover the full range of Zymplate® to maximize efficiency

Explore our complete Zymplate® range:

- **AmylaZ Zymplate®**: Amylase activity
- **GlucanaZ Zymplate®**: B - Glucanase activity
- **PhytaZ Zymplate®**: Phytase activity
- **ProteaZ Zymplate®**: Protease activity
- **XylanaZ HA Zymplate®**: Xylanase (High Activity)
- **XylanaZ VLA Zymplate®**: Xylanase (Very Low Activity)

