abcam

Product datasheet

Gelatin Degradation Assay Kit (Alternative to Zymography) ab234057

1 References 3 Images

Overview

Product name	Gelatin Degradation Assay Kit (Alternative to Zymography)
Detection method	Fluorescent
Sample type	Tissue, Cell Lysate
Assay type	Quantitative
Species reactivity	**Reacts with:** Mammals, Other species
Product overview	Gelatin Degradation Assay Kit (Alternative to Zymography) (ab234057) utilizes a hybrid approach for the detection of gelatinase activity by employing a highly quenched gelatin substrate which upon cleavage by a suitable gelatinase releases a fluorophore, which can be easily quantified using a conventional microplate reader. This method is substrate-specific, simple, fast, high-throughput adaptable and amenable to the sensitive detection of gelatinase activity (as low as 0.06 mCDU for bacterial collagenase) in biological samples.
Notes	This product is manufactured by BioVision, an Abcam company and was previously called K444 Gelatinase (Gelatin Degradation/Zymography) Assay Kit (Fluorometric). K444-100 is the same size as the 100 test size of ab234057. Gelatinases are a type of matrix zinc-dependent metalloproteases (MMPs) that degrade gelatins and a variety of other extracellular matrix proteins. These enzymes are synthesized as latent zymogens that are activated by proteolysis and inhibited by tissue inhibitors of metalloproteases (TIMPs). Two mammalian gelatinases, Gelatinase A (MMP-2) and Gelatinase B (MMP-9), are critical for basement membrane degradation and are highly upregulated in variety of tumor cells. Gelatinase activity is usually detected by small peptide-based activity assays which may suffer from lack of substrate specificity. Other methods for gelatinase activity include gelatin Zymography where samples are electrophoresed on a gelatin-containing SDS-PAGE, and further renatured in a suitable buffer for 12-16 h. The zymogram is subsequently stained, and areas of digestion appear as clear bands against a darkly stained background where the substrate has been degraded by the enzyme. Such methods are laborious, time-consuming and may lead to the loss of enzymatic activity as renaturation may not be completely reversible.
Platform	Microplate reader

Properties

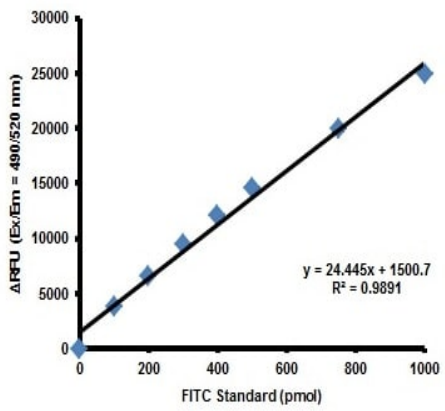
Storage instructions	Store at -20°C. Please refer to protocols.

Components	100 tests
Cell Lysis Buffer	1 x 25ml
Enzyme Positive Control	1 x 100µl
FITC Standard (5 mM)	1 x 10µl
Gelatinase Assay Buffer	1 x 25ml
Gelatinase Substrate (FITC)	1 vial

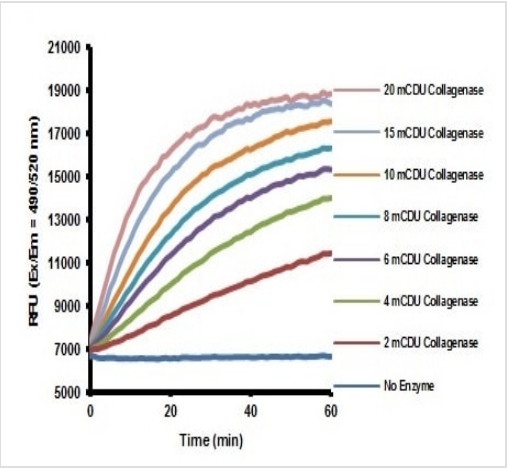
Relevance

Gelatin is denatured collagen composed of heterogeneous mixture of water-soluble proteins of high average molecular weights. Below 35-40°C gelatin swells and absorbs 5-10 times its weight of water to form a gel. Gel strength and viscosity gradually weaken upon prolonged heating in solution above 40°C.

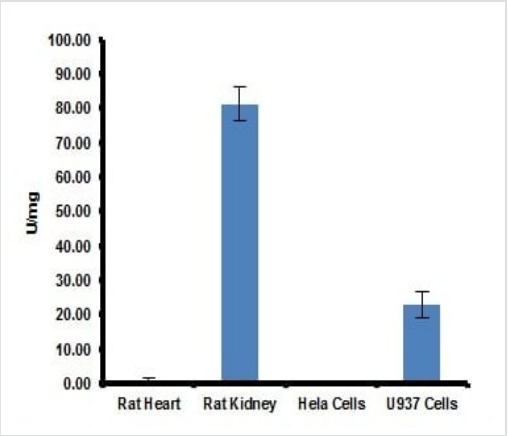
Images



FITC Standard Curve.



Gelatinase activity with different amounts of Enzyme Positive Control.



Gelatinase activity in rat heart and kidney lysates along with Hela and U937 cell lysates.

Please note: All products are "FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC PROCEDURES"

Our Abpromise to you: Quality guaranteed and expert technical support

- Replacement or refund for products not performing as stated on the datasheet
- Valid for 12 months from date of delivery
- Response to your inquiry within 24 hours
- We provide support in Chinese, English, French, German, Japanese and Spanish
- Extensive multi-media technical resources to help you
- We investigate all quality concerns to ensure our products perform to the highest standards

If the product does not perform as described on this datasheet, we will offer a refund or replacement. For full details of the Abpromise, please visit **https://www.abcam.com/abpromise** or contact our technical team.

Terms and conditions

- Guarantee only valid for products bought direct from Abcam or one of our authorized distributors