

Product datasheet

Collagen Degradation/Zymography Assay Kit (Fluorometric) ab234624

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Overview

Product name	Collagen Degradation/Zymography Assay Kit (Fluorometric)
Detection method	Fluorescent
Sample type	Cell Lysate, Tissue Homogenate, Tissue Lysate
Assay type	Quantitative
Product overview	Collagenase (Collagen Degradation/Zymography) Assay Kit (Fluorometric) (ab234624) employs a highly quenched collagen substrate which upon cleavage by a suitable collagenase 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 collagenase activity (as low as 0.6 mCDU for bacterial collagenase) in biological samples.

Notes This product is manufactured by BioVision, an Abcam company and was previously called K490 Collagenase (Collagen Degradation/Zymography) Assay Kit (Fluorometric). K490-100 is the same size as the 100 test size of ab234624.

Collagenases, members of the matrix metalloproteinase (MMP) family, are endopeptidases that digest native collagen in the triple helix region and are involved in the physiological and pathological turnover of connective tissues. Collagens are the major fibrous component of animal extracellular connective tissue. Bacterial collagenases differ from vertebrate collagenases in that they exhibit broader substrate specificity. Collagenases may play a role in facilitating tumor cell invasion of the extracellular matrix at multiple stages of the metastatic process. Collagenases have also been approved for medical uses for the treatment of Dupuytren's contracture, Peyronie's disease and wound healing.

Platform Microplate reader

Properties

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

Components	100 tests
Cell Lysis Buffer	1 x 25ml

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

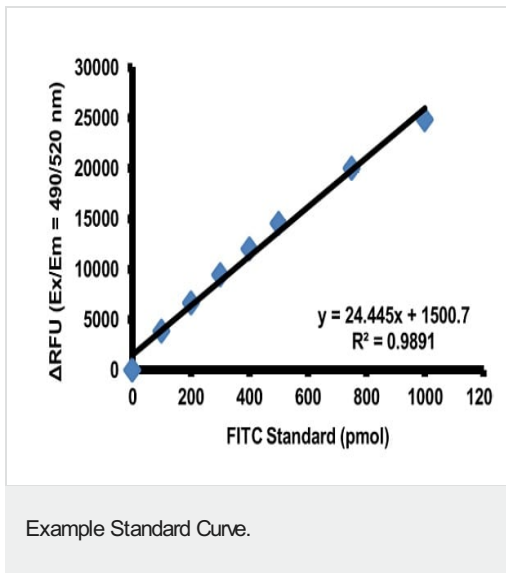
Relevance

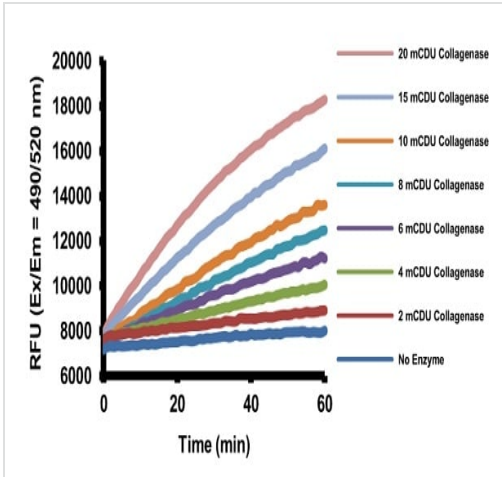
Function: Cleaves collagens of types I, II, and III at one site in the helical domain. Also cleaves collagens of types VII and X. In case of HIV infection, interacts and cleaves the secreted viral Tat protein, leading to a decrease in neuronal Tat's mediated neurotoxicity. Domain: There are two distinct domains in this protein; the catalytic N-terminal, and the C-terminal which is involved in substrate specificity and in binding TIMP (tissue inhibitor of metalloproteinases). The conserved cysteine present in the cysteine-switch motif binds the catalytic zinc ion, thus inhibiting the enzyme. The dissociation of the cysteine from the zinc ion upon the activation-peptide release activates the enzyme. PTM: Undergoes autolytic cleavage to two major forms (22 kDa and 27 kDa). A minor form (25 kDa) is the glycosylated form of the 22 kDa form. The 27 kDa form has no activity while the 22/25 kDa form can act as activator for collagenase. Similarity: Belongs to the peptidase M10A family. Contains 4 hemopexin-like domains.

Cellular localization

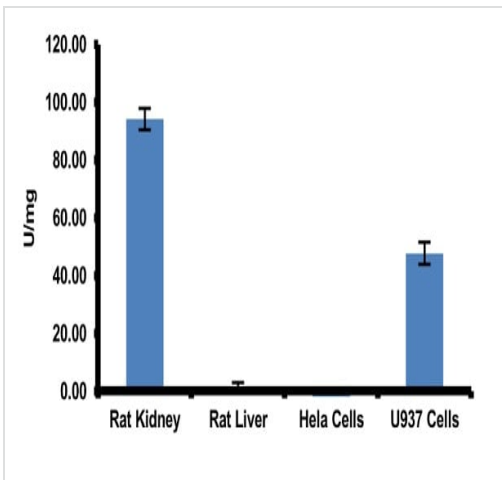
Secreted, extracellular space, extracellular matrix

Images





Collagenase activity with different amounts of Enzyme Positive Control.



Collagenase activity in rat kidney, liver lysates along with Hela and U937 cell lysates. n=3.

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