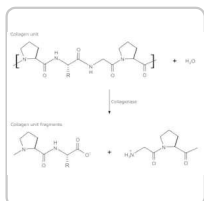


Saisir le nom du produit, le numéro de lot, etc.



Toutes les  
photos (2)

Documents

FDS

COO/COA

 Fiche des  
caractéristiques

Plus de  
documents »

C9891 ► Sigma-Aldrich.

## Collagenase from *Clostridium histolyticum*

★★★★★ (0)

Type IA, 0.5-5.0 FALGPA units/mg solid, ≥125 CDU/mg solid, For general use

Synonyme(s):

Clostridiopeptidase A

Numéro CAS: 9001-12-1

Numéro EC: 232-582-9

NACRES: NA.54

Numéro de classification  
(Commission des enzymes):

3.4.24.3 (BRENDA, IUBMB)

Numéro MDL:

MFCD00130830

| Référence   | Conditionnement | Disponibilité                                  | Prix                  | Quantité                                                      |
|-------------|-----------------|------------------------------------------------|-----------------------|---------------------------------------------------------------|
| C9891-25MG  | 25 MG           | ✓ Date d'expédition estimée le 10 octobre 2022 | Détails... 50,50 €    | <input type="text" value="−"/> <input type="text" value="+"/> |
| C9891-100MG | 100 MG          | ✓ Date d'expédition estimée le 10 octobre 2022 | Détails... 154,00 €   | <input type="text" value="−"/> <input type="text" value="+"/> |
| C9891-500MG | 500 MG          | ✓ Only 3 left in stock (more on the way)       | Détails... 471,00 €   | <input type="text" value="−"/> <input type="text" value="+"/> |
| C9891-1G    | 1 G             | ✓ Date d'expédition estimée le 10 octobre 2022 | Détails... 800,00 €   | <input type="text" value="−"/> <input type="text" value="+"/> |
| C9891-5G    | 5 G             | ✓ Only 2 left in stock (more on the way)       | Détails... 3 230,00 € | <input type="text" value="−"/> <input type="text" value="+"/> |

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PRODUITS RECOMMANDÉS

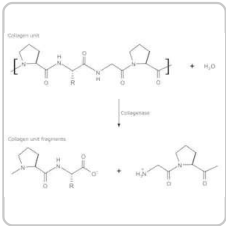


Sigma-Aldrich

**C0130**

**Collagenase from *Clostridium histolyticum***  
for general use, Type I, 0.25-1.0 FALGPA units/mg solid,  
≥125 CDU/mg solid

[Consulter le prix et la disponibilité](#)



Sigma-Aldrich

**C5138**

**Collagenase from *Clostridium histolyticum***  
suitable for release of physiologically active rat  
hepatocytes, Type IV, 0.5-5.0 FALGPA units/mg solid,...

[Consulter le prix et la disponibilité](#)

PROPRIÉTÉS

|                   |                                                    |
|-------------------|----------------------------------------------------|
| Niveau de qualité | 200                                                |
| Forme             | essentially salt-free, lyophilized powder          |
| specific activity | ≥125 CDU/mg solid<br>0.5-5.0 FALGPA units/mg solid |
| Poids mol.        | 68-130 kDa                                         |

**Solubilité**

TESCA buffer (50 mM TES, 0.36 mM Calcium chloride, pH 7.4): soluble

**application(s)**

diagnostic assay manufacturing

**Expédié(e)(s) dans**

wet ice

**Temp. de stockage**

-20°C

Vous recherchez des produits similaires ? Visitez [Guide de comparaison des produits](#)

**Catégories apparentées**[Tissue Dissociation](#)

## DESCRIPTION

### Application

The enzyme has also been used along with other proteases for the disaggregation of human tumor, mouse kidney, human brain, and lung epithelial tissues. It is also useful in liver and kidney perfusion studies, digestion of pancreas, isolation of nonparenchymal rat liver cells and hepatocytes. The enzyme from Sigma has been used for the digestion of type I collagen from bovine trabecular and cortical bones. It has also been used as a positive control in FALGPA assay on Group B *Streptococci* cells.

### Actions biochimiques/physiologiques

Effective release of cells from tissue requires the action of both collagenase enzymes and the neutral protease. Collagenase is activated by four gram atom calcium ( $\text{Ca}^{2+}$ ) per mole enzyme. The culture filtrate is thought to contain at least 7 different proteases ranging in molecular weight from 68-130 kDa. The pH optimum ranges from 6.3-8.8. The enzyme is typically used to digest the connective components in tissue samples to liberate individual cells. Collagenase treatment can cause some cells to die. Typically, concentrations varying from 0.1 to 5 mg/mL are used for digestion. The duration of reaction varies from 15 minutes to

several hours for a satisfactory efficiency of cell dissociation without causing too much cell death. Krebs Ringer buffer with calcium and BSA is preferred and  $\text{Zn}^{2+}$  is required for activity. The enzyme recognizes the sequence -R-Pro-8-X-Gly-Pro-R-, where X is most often a neutral amino acid. Ethylene glycol-bis( $\beta$ -aminoethyl ether)-N,N,N',N'-tetraacetic acid (EGTA)4;  $\beta$ -mercaptoethanol; glutathione (reduced); thioglycolic acid, sodium; 2,2'-dipyridyl; 8-hydroxyquinoline, cysteine are known to inhibit the enzyme activity.

Collagenase is activated by four gram atom calcium per mole enzyme. It is inhibited by ethylene glycol-bis(beta-aminoethyl ether) - N, N, N',N'-tetraacetic acid, beta-mercaptoethanol, glutathione, thioglycolic acid and 8-hydroxyquinoline.

## Attention

As supplied, this product is stable for one year at -20°C. There is no loss in FALGPA or protease activity in 30 days at 37°C, 50°C and -20°C. Solutions of crude collagenase are stable if frozen quickly in aliquots (at 10 mg/mL) and kept frozen at -20°C. Further freeze-thaw cycles will damage the solution. The product retains 100% activity over 7 hours when held on ice.

## Définition de l'unité

One collagen digestion unit (CDU) liberates peptides from collagen from bovine achilles tendon equivalent in ninhydrin color to 1.0  $\mu\text{mole}$  of leucine in 5 hours at pH 7.4 at 37 °C in the presence of calcium ions. One FALGPA hydrolysis unit hydrolyzes 1.0  $\mu\text{mole}$  of furylacryloyl-Leu-Gly-Pro-Ala per min at 25°C. One Neutral Protease unit hydrolyzes casein to produce color equivalent to 1.0  $\mu\text{mole}$  of tyrosine per 5 hr at pH 7.5 at 37°C. One Clostripain Unit hydrolyzes 1.0  $\mu\text{mole}$  of BAEE per min at pH 7.6 at 25°C in the presence of DTT.

## Notes préparatoires

This product is equivalent to first 40% ammonium sulfate fraction of Mandl, I., et al., *J. Clin. Invest.*, **32**, 1323 (1953). Solutions are typically prepared at 1-2 mg/mL in TESCA buffer (containing 50 mM TES, 0.36 mM Calcium chloride, pH 7.4 at 37°C).

---

## PRODUITS APPARENTÉS

## Substrat

### F5135

N-[3-(2-Furyl)acryloyl]-Leu-Gly-Pro-Ala

[View Pricing](#)

## INFORMATIONS SUR LA SÉCURITÉ

### Pictograms



**GHS08**

### Mention d'avertissement

Danger

### Mentions de danger

**H334**

### Conseils de prudence

**P261 - P284 - P501**

### Classification des risques

Resp. Sens. 1

### Code de la classe de stockage

11 - Combustible Solids

### WGK

WGK 1

### Flash Point(F)

Not applicable

### Point d'éclair C

Not applicable

### Équipement de protection individuelle

dust mask type N95 (US),  
Eyeshields, Faceshields,  
Gloves

## DOCUMENTATION

## Certificat d'analyse

Saisir un numéro de lot pour rechercher un certificat d'analyse (COA).

Numéro de lot

e.g. 023J5431

**Comment saisir un numéro de lot (COA)**

**Rechercher**

## Certificat d'origine

Saisir un numéro de lot pour rechercher un certificat d'origine (COO).

Numéro de lot

e.g. 023J5431

**Comment saisir un numéro de lot (COO)**

**Rechercher**

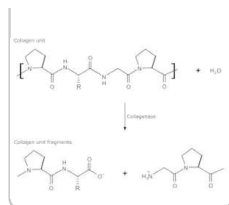
## Plus De Documents

[Enzyme Explorer](#)

[FDS](#)

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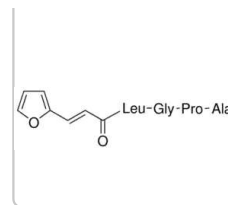
## LES CLIENTS ONT ÉGALEMENT CONSULTÉ



Sigma-Aldrich

**C9407****Collagenase from *Clostridium histolyticum***

powder, Suitable for the digestion and isolation of physiologically active pancreatic islet cells, suitable for...

[Consulter le prix et la disponibilité](#)

Sigma-Aldrich

**F5135****N-[3-(2-Furyl)acryloyl]-Leu-Gly-Pro-Ala**[Consulter le prix et la disponibilité](#)

## ARTICLES REVUS PAR DES PAIRS

### Characterization and population dynamics of germ cells in adult macaque testicular cultures.

**Swati Sharma et al.***PloS one*, 14(6), e0218194-e0218194 (2019-06-22)

From a biological and clinical perspective, it is imperative to establish primate spermatogonial cultures. Due to limited availability of human testicular tissues, the macaque (*Macaca fascicularis*) was employed as non-human primate model. The aim of this study was to characterize

### Characterization of urinary degradation products derived from type I collagen. Identification of a beta-isomerized Asp-Gly sequence within the C-terminal telopeptide (alpha1) region.

**C Fledelius et al.***The Journal of biological chemistry*, 272(15), 9755-9763 (1997-04-11)

The heterogeneity of urinary degradation products of C-terminal telopeptides derived from the alpha1 chain of human type I collagen was investigated and characterized. The urinary fragments characterized in this study consisted of two cross-linked (X) amino acid sequences derived from

### Mammary molecular portraits reveal lineage-specific features and progenitor cell vulnerabilities.

**Alison E Casey et al.***The Journal of cell biology*, 217(8), 2951-2974 (2018-06-21)

The mammary epithelium depends on specific lineages and their stem and progenitor function to accommodate hormone-triggered physiological demands in the adult female. Perturbations of these lineages underpin breast cancer risk, yet our understanding of normal mammary cell

composition is incomplete.

---

### 3T3-L1 cells and perivascular adipocytes are not equivalent in amine transporter expression.

**Alex Ismail et al.**

*FEBS letters*, 591(1), 137-144 (2016-12-08)

Rat perivascular adipose tissue (PVAT) stores, takes up, and releases norepinephrine (NE; Ayala-Lopez et al. (2014) Pharmacol Res Perspect 2, e00041). We hypothesized that 3T3-L1 adipocytes would exhibit similar behaviors and, thus, could serve as a model for PVAT adipocytes.

---

### Cell-associated collagenolytic activity by group B streptococci.

**R J Jackson et al.**

*Infection and immunity*, 62(12), 5647-5651 (1994-12-01)

Group B streptococci (GBS) are important pathogens in neonatal sepsis, pneumonia, and meningitis. The ability of GBS to invade the collagen-rich amniotic membrane of the placenta has been shown in vitro. In the presence of GBS, the collagen fibrils of

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## PROTOCOLES ET ARTICLES SCIENTIFIQUES

### Protocoles

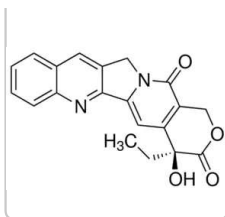
#### Enzymatic Assay of Collagenase (EC 3.4.24.3) using FALGPA (N-(3-[2-Furyl]acryloyl)-Leu-Gly-Pro-Ala)

This procedure may be used for Collagenase products.

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## PRODUITS CONSULTÉS RÉCEMMENT

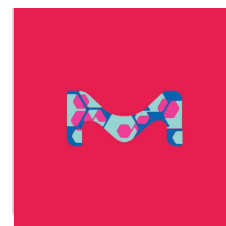




Sigma-Aldrich

**C9911****(S)-(+)-Camptothecin**

≥90% (HPLC), powder

[Consulter le prix et la disponibilité](#)

Sigma-Aldrich

**C9999****Citrate Buffer, pH 6.0, 10×, Antigen Retriever**[Consulter le prix et la disponibilité](#)

## Évaluations

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## Questions

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