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Specials



## Collagenase AF-1 GMP Grade & Neutral Protease AF GMP Grade

Safe, gentle & free of animal-derived materials

### Animal-free GMP Grade Collagenase and Neutral Protease for cell isolation

SERVA, in close collaboration with the pharmaceutical company Nordmark, has developed the world's first highly purified collagenase and purified neutral protease **completely free of any animal-based components**.

Using raw materials from animal origin often causes concerns regarding the introduction of potential animal-derived pathogens. To rule out these concerns, Collagenase AF-1 GMP Grade and Neutral Protease AF GMP Grade are derived from *Clostridium histolyticum* grown in a medium containing carefully selected **plant-based** ingredients. Furthermore, the sophisticated production process ensures that there is no cross-contamination with any animal-derived materials. Therefore, these enzymes provide the **highest level of safety and reduced regulatory hurdles**.



### Highly purified for exact dosage and high enzyme stability

Collagenase AF-1 GMP Grade and Neutral Protease AF GMP Grade are highly active and defined products designed to isolate **especially sensitive cells** from tissues such as liver, dental pulp or pancreas.

Collagenase AF-1 GMP Grade is chromatographically highly purified containing:

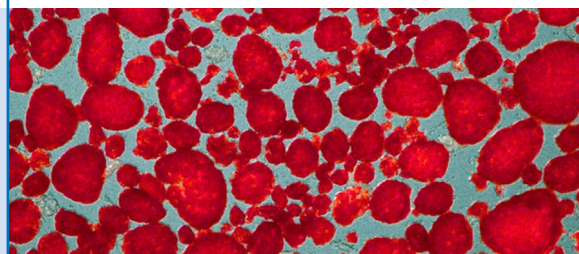
- Class I and Class II collagenase
- very low levels of endotoxins
- reduced proteolytic side activities

Often a certain amount of additional enzymatic side activities is essential. For this reason, chromatographically purified Neutral Protease AF GMP Grade is provided separately, which has the great benefit of:

- Individual and precise dosage
- Higher stability of the enzymes
- Optimized yield and viability of sensitive cells

### Tested for islet isolation by leading scientists

The efficacy and reliable performance of these new animal-free enzymes have been **confirmed by leading experts** in the field of islet isolation from renowned institutions such as University of Geneva; University of California, San Francisco; and Uppsala University.



Islets isolated with SERVA AF enzymes, Photo: Greg Szot, UCSF

### Manufactured according to GMP guidelines

Our animal-free enzymes are produced with the expertise of the world's largest manufacturer of collagenase, the pharmaceutical company Nordmark. Compliance with GMP guidelines guarantees the **highest quality** and a reliable **lot-to-lot consistency**.



### Specifications

Enzyme	Collagenase AF-1 GMP Grade		Neutral Protease AF GMP Grade	
Origin	<i>Clostridium histolyticum</i>		<i>Clostridium histolyticum</i>	
Composition	Collagenase Class I and Class II		Neutral Protease	
Molecular weight	70 – 120 kDa (collagenases)		34 kDa	
Special features	<b>Manufactured free from animal components &amp; according to international GMP guidelines</b>		<b>Manufactured free from animal components &amp; according to international GMP guidelines</b>	
Characters	White to off-white, 0.2 µm sterile filtered, chromatographically highly purified, lyophilisate		Beige to brown, 0.2 µm sterile filtered, chromatographically purified, lyophilisate	
Protein content	Lowry assay	> 95 %	Lowry assay	> 85 %
Identification	SDS-PAGE	Position of main bands must comply	SDS-PAGE	Position of main bands must comply
Test	Water	≤ 15 % (w/w)	Water	≤ 15 % (w/w)
Microbiological examination	Total viable aerobic bacteria and fungi (Ph. Eur.)	≤ 10/Vial	Total viable aerobic bacteria and fungi (Ph. Eur.)	≤ 10/Vial
	Absence of Clostridia	Must comply	Absence of Clostridia	Must comply
Activities	Collagenase (PZ activity according to Wunsch, 25 °C)	≥ 2000 U/Vial	Neutral Protease (DMC assay)	≥ 100 U/Vial
	Collagenase (PZ activity according to Wunsch, 25 °C)	≥ 3.000 U/mg lyophilisate	Neutral Protease (DMC assay)	≥ 0.50 U/mg lyophilisate
	Neutral Protease (DMC assay)	≤ 0.050 U/mg lyophilisate		
	Trypsin-like activities (BAEE assay)	Status		
	Clostripain, native state (BAEE assay)	Status		
Bacterial endotoxins	LAL assay	≤ 10.0 EU/mg lyophilisate	LAL assay	≤ 100.0 EU/mg lyophilisate
Long term storage	+2 to +8 °C		+2 to +8 °C	

### Ordering information

Enzyme	Cat. No.	Size
Collagenase AF-1 GMP Grade from <i>C. histolyticum</i>	17457.01	≥ 2000 PZ U/Vial
Neutral Protease AF GMP Grade from <i>C. histolyticum</i>	30306.01	≥ 100 DMC U/Vial



For information and samples please contact  
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