

## Collagenase: Type I-VII, animal-free A-D, sterile filtered

### Collagenases (Type 1-7, animal free A-D):

Partially purified Collagenases preparations from *Clostridium histolyticum* contain several isoforms of Collagenases as well as Sulfhydryl Protease, Clostripain, a trypsin-like enzyme, and an Aminopeptidase. This combination of collagenolytic and proteolytic activities is effective at breaking down intercellular matrices, the essential part of tissue dissociation.

Particular enzymatic profiles of each Collagenase have been correlated with the tissues from which the cells for study were obtained (or with the uses to which the cells are put). As a result of the correlations, several types of partially purified collagenases have been established: Types 1, 2, 3, 4, 5, 6 and 7.

| Product                | Specification   | Activity                             | Code    | Size                                     | Cat.No.   |
|------------------------|---|--------------------------------------|---------|--|---|
| Collagenase, Purified  | Chromatographically purified. $\leq$ 50 caseinase units per milligram. Lyophilized powder.  | $\geq$ 500 units per mg dry weight   | CLSPA   | 4 ku*<br>10 ku*<br>Bulk<br>*Kunitz Units | <a href="#">LS005275</a><br><a href="#">LS005273</a><br><a href="#">Inquire</a>                             |
| Collagenase Vial, NCIS | A component of the <a href="#">Neonatal Cardiomyocyte Isolation Kit (NCIS Kit)</a> . 0.22-micron membrane filtered and lyophilized in autoclaved vials. A vial reconstituted with 5 ml of HBSS or equivalent yields a solution of 300 units/ml of Collagenase, Code: CLSPA. Suitable for cell isolation and culture applications. | $\geq$ 1500 units per vial           | CLSPANK | 1 vial<br>5 vials                        | <a href="#">LK003240</a><br><a href="#">LK003245</a>  |
| Collagenase, Type 1    | The original balance of enzymatic activities. Each lot assayed for collagenase, caseinase, clostripain and tryptic activities. Suggested for epithelial, liver, lung and adrenal primary cell isolations. A dialyzed, lyophilized powder.   | $\geq$ 125 units per mg dry weight   | CLS-1   | 100 mg<br>1 gm<br>5 gm<br>Bulk           | <a href="#">LS004194</a><br><a href="#">LS004196</a><br><a href="#">LS004197</a><br><a href="#">Inquire</a> |
| Collagenase, Type 2    | Contains higher clostripain activity. Suggested for bone, heart, liver, thyroid and salivary primary cell isolation. Dialyzed, lyophilized powder.  | $\geq$ 125 units per mg dry weight   | CLS-2   | 100 mg<br>1 gm<br>5 gm<br>Bulk           | <a href="#">LS004174</a><br><a href="#">LS004176</a><br><a href="#">LS004177</a><br><a href="#">Inquire</a> |
| Collagenase, Type 3    | Lower in secondary proteolytic contaminant activities but with typical collagenase activity. Suggested for mammary primary cell isolation. A dialyzed, lyophilized powder.  | $\geq$ 100 units per mg dry weight   | CLS-3   | 100 mg<br>1 gm<br>5 gm<br>Bulk           | <a href="#">LS004180</a><br><a href="#">LS004182</a><br><a href="#">LS004183</a><br><a href="#">Inquire</a> |
| Collagenase, Type 4    | Contains lower tryptic activity levels to limit damage to membrane proteins and receptors but with normal to above normal collagenase activity. Suggested for pancreatic islet primary isolation. A dialyzed, lyophilized powder.   | $\geq$ 160 units per mg dry weight   | CLS-4   | 100 mg<br>1 gm<br>5 gm<br>Bulk           | <a href="#">LS004186</a><br><a href="#">LS004188</a><br><a href="#">LS004189</a><br><a href="#">Inquire</a> |
| Collagenase, Type 5    | Prepared to contain higher collagenase and caseinase activities. A dialyzed, lyophilized powder.  | $\geq$ 450 units per mg dry weight   | CLS-5   | 100 mg<br>1 gm<br>5 gm<br>Bulk           | <a href="#">LS005280</a><br><a href="#">LS005282</a><br><a href="#">LS005283</a><br><a href="#">Inquire</a> |
| Collagenase, Type 6    | Contains high collagenase activity with a caseinase to collagenase ratio ~2:1. Designed to be enriched for Type II (col H) collagenase relative to Type I (col G). A dialyzed, lyophilized powder.  | $\geq$ 400 units per mg dry weight   | CLS-6   | 100 mg<br>500 mg<br>2.5 gm<br>Bulk       | <a href="#">LS005318</a><br><a href="#">LS005319</a><br><a href="#">LS005321</a><br><a href="#">Inquire</a> |
| Collagenase, Type 7    | Prepared to contain collagenase and caseinase activities four-fold higher than collagenase Types 1 and 2. A dialyzed, lyophilized powder.   | $\geq$ 1,000 units per mg dry weight | CLS-7   | 100 mg<br>500 mg<br>2.5 gm<br>Bulk       | <a href="#">LS005332</a><br><a href="#">LS005333</a><br><a href="#">LS005335</a><br><a href="#">Inquire</a> |



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| Product  | Specification   | Activity   | Code   | Size                       | Cat.No.  |
|--|---|--|--------|----------------------------|--|
| Collagenase, Type 1, Filtered                            | Collagenase, Type 1 (Code: CLS-1), which is filtered through a 0.22-micron membrane and lyophilized in vials.   | ≥125 units per mg dry weight   | CLSS-1 | 50 mg<br>5 x 50 mg<br>1 gm | <a href="#">LS004214</a><br><a href="#">LS004216</a><br><a href="#">LS004217</a> |
| Collagenase, Type 2, Filtered                            | Collagenase, Type 2 (Code: CLS-2), which is filtered through a 0.22-micron membrane and lyophilized in vials.   | ≥125 units per mg dry weight   | CLSS-2 | 50 mg<br>5 x 50 mg<br>1 gm | <a href="#">LS004202</a><br><a href="#">LS004204</a><br><a href="#">LS004205</a> |
| Collagenase, Type 3, Filtered                            | Collagenase, Type 3 (Code: CLS-3), which is filtered through a 0.22-micron membrane and lyophilized in vials to contain ≥ 50 milligrams per vial.   | ≥100 units per mg dry weight   | CLSS-3 | 50 mg<br>5 x 50 mg         | <a href="#">LS004206</a><br><a href="#">LS004208</a>                             |
| Collagenase, Type 4, Filtered                            | Collagenase, Type 4 (Code: CLS-4), which is filtered through a 0.22-micron membrane and lyophilized in vials.   | ≥160 units per mg dry weight   | CLSS-4 | 50 mg<br>5 x 50 mg<br>1 gm | <a href="#">LS004210</a><br><a href="#">LS004212</a><br><a href="#">LS004209</a> |
| Collagenase, Type 5, Filtered                            | Collagenase, Type 5 (Code: CLS-5), which is filtered through a 0.22-micron membrane and lyophilized in vials.   | ≥450 units per mg dry weight   | CLSS-5 | 50 mg<br>5 x 50 mg<br>1 gm | <a href="#">LS005286</a><br><a href="#">LS005287</a><br><a href="#">LS005288</a> |
| Collagenase/Elastase Vial,                               | Collagenase/Elastase Vial, a component of the <a href="#">Hepatocyte Isolation System (HIS Kit)</a> Collagenase (Code: CLS-1) and Elastase (Code: ESL), filtered through 0.22 µm pore size membrane, and lyophilized. A component of the HIS kit also contains 30 u/vial elastase.  | ≥20,000 units per vial   | CLSH   | 1 vial<br>5 vials          | <a href="#">LK002066</a><br><a href="#">LK002067</a>                             |
| STEMxyme®1, Collagenase/ Neutral Protease, 0.22 Filtered | A specialized combination of <b>Animal Free</b> Clostridium histolyticum Collagenase and <b>Animal Free</b> Bacillus polymyxa neutral protease with a minimum of 250 CLS units and 1,000 caseinase units per mg dry weight. Designed for stem cell and other primary cell isolations and bioprocessing applications where introduction of potential animal derived pathogens must be prevented. | ≥250 collagenase units per mg dry weight<br>≥1,000 caseinase units per mg dry weight | STZ1   | 50 mg<br>5 x 50 mg         | <a href="#">LS004106</a><br><a href="#">LS004107</a>                             |
| STEMxyme®2, Collagenase/ Neutral Protease, 0.22 Filtered | A specialized combination of <b>Animal Free</b> Clostridium histolyticum Collagenase and <b>Animal Free</b> Bacillus polymyxa neutral protease with a minimum of 250 CLS units and 2,000 caseinase units per mg dry weight. Designed for stem cell and other primary cell isolations and bioprocessing applications where introduction of potential animal derived pathogens must be prevented. | ≥250 collagenase units per mg dry weight<br>≥2,000 caseinase units per mg dry weight | STZ2   | 50 mg<br>5 x 50 mg         | <a href="#">LS004112</a><br><a href="#">LS004113</a>                             |
| Collagenase, Purified, Animal free                       | Collagenase, <b>Animal Free</b> . Prepared from cultures grown in medium completely devoid of animal-based components and designed for bioprocessing applications where introduction of animal derived pathogens must be prevented. Chromatographically purified. ≤ 50 caseinase units per milligram. Supplied as a lyophilized powder.   | ≥1,500 units per mg dry weight   | CLSAFP | 4 ku*<br>10 ku*            | <a href="#">LS005290</a><br><a href="#">LS005292</a>                             |

\*Kunitz Units



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| Product                            | Specification  | Activity                      | Code    | Size   | Cat.No.   |
|------------------------------------|--|-------------------------------|---------|--|---|
| Collagenase, Type A                | Collagenase derived from cultures grown in <b>Animal Free</b> medium. Suitable for applications needing to avoid introduction of potential animal derived pathogens into bioprocessing procedures.   | ≥ 150 units per mg dry weight | CLSAFA  | 100 mg<br>1 gm<br>5 gm<br>Bulk   | <a href="#">LS004152</a><br><a href="#">LS004154</a><br><a href="#">LS004156</a><br><a href="#">Inquire</a> |
| Collagenase, Type A, 0.22 Filtered | Collagenase, <b>Animal Free</b> which is filtered through a 0.22-micron membrane and lyophilized in vials.   | ≥ 150 units per mg dry weight | CLSAFAS | 50 mg<br>5 x 50 mg   | <a href="#">LS004118</a><br><a href="#">LS004119</a>  |
| Collagenase, Type B                | Collagenase, <b>Animal Free</b> . Prepared from cultures grown in medium completely devoid of animal-based components and designed for bioprocessing applications where introduction of animal derived pathogens must be prevented.  | ≥ 300 units per mg dry weight | CLSAFB  | 100 mg<br>1 gm<br>5 gm<br>Bulk   | <a href="#">LS004145</a><br><a href="#">LS004147</a><br><a href="#">LS004148</a><br><a href="#">Inquire</a> |
| Collagenase, Type B, 0.22 Filtered | Collagenase, <b>Animal Free</b> , which is filtered through a 0.22-micron membrane and lyophilized in vials.   | ≥ 300 units per mg dry weight | CLSAFBS | 50 mg<br>5 x 50 mg   | <a href="#">LS004124</a><br><a href="#">LS004125</a>  |
| Collagenase, Type C                | Collagenase, <b>Animal Free</b> . Prepared from cultures grown in medium completely devoid of animal-based components and designed for bioprocessing applications where introduction of animal derived pathogens must be prevented.  | ≥ 200 units per mg dry weight | CLSAFC  | 100 mg<br>1 gm<br>5 gm<br>Bulk   | <a href="#">LS004138</a><br><a href="#">LS004140</a><br><a href="#">LS004141</a><br><a href="#">Inquire</a> |
| Collagenase, Type C, 0.22 Filtered | Collagenase, <b>Animal Free</b> which is filtered through a 0.22-micron membrane and lyophilized in vials.   | ≥ 200 units per mg dry weight | CLSAFCS | 50 mg<br>5 x 50 mg   | <a href="#">LS004130</a><br><a href="#">LS004131</a>  |
| Collagenase, Type D                | Collagenase, <b>Animal Free</b> . Prepared from cultures grown in medium completely devoid of animal-based components and designed for bioprocessing applications where introduction of animal derived pathogens must be prevented.  | ≥ 600 units per mg dry weight | CSLAFD  | 100 mg<br>500 mg<br>2500 mg  | <a href="#">LS004160</a><br><a href="#">LS004162</a><br><a href="#">LS004163</a>                            |
| Cell Isolation Optimizing System   | <b>Kit Components</b><br>• Collagenase Type 1 CLS1<br>• Hyaluronidase HSE<br>• Collagenase Type 2 CLS2<br>• Elastase ESL<br>• Collagenase Type 3 CLS3<br>• Papain PAPL<br>• Collagenase Type 4 CLS4<br>• Deoxyribonuclease I DP<br>• Trypsin TRL<br>• Trypsin Inhibitor SIC<br>• Neutral Protease (Dispase) NPRO |                               | CIT     | Kit<br>500mg dw<br>50,000 un<br>500mg dw<br>100mg P<br>500mg dw<br>100mg P<br>500mg dw<br>25mg dw<br>500mg dw<br>100mg dw<br>10mg dw | <a href="#">LK003200</a>  |



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