

## Collagenase IV(from *Clostridium histolytica*)

**Cat:** C8160

**Storage:** -20°C for at least 1 year.

### Introduction:

Collagenase IV contains at least 7 protease components with molecular weights ranging from 68-130KD. It can digest a variety of tissues. The concentration of collagenase is generally 0.1 to 5mg/mL, and the digestion process can be stirred to promote the digestion of the enzyme. Collagenase can cause a small amount of cell death during digestion, and the general digestion time is 15min to several hours. If the concentration changes, the digestion time may be longer. The preferred Buffer during digestion is the Krebs Ringer Buffer containing calcium ions and BSA. If a large number of cells die during digestion, the amount of enzymes needs to be reduced. At the same time, 0.5%BSA or 5-10% serum can be added to stabilize the cell state and digestion effect. Sterilization of collagenase begins with centrifugation or removal of insoluble matter with a 0.8 $\mu$ m filter. It is then filtered with a 0.2 $\mu$ m filter to remove bacteria. The combination of benzamidine hydrochloride and TLCK can bind to most proteases of the enzyme component and inhibit its activity, but they do not inhibit collagenase activity. The concentration of benzamidine hydrochloride is generally 1mM, and the concentration of TLCK is generally 0.100-0.135mM. It is worth noting that both cannot completely guarantee that the activity of all proteases is inhibited.

### Enzyme preservation solution:

Enzyme solubility: 0.05-0.1mg/mL collagenic enzyme dissolved in 50mM TES buffer, pH7.4(37°C) containing 0.36mM calcium chloride. The final concentration of the reaction system was 50mM TES, 0.36mM calcium chloride, 25mg collagen and 0.005-0.01mg collagenase.

### Stability:

The enzyme solution can maintain activity at 37°C for 5h at a neutral PH containing 0.3-0.5mM calcium ions. It can be maintained at -20°C for several months.

### Related Literature:

[1] Xinrui Zhao,Lidong Liu,Rui Li,et al. Hypoxia-Inducible Factor 1- $\alpha$  (HIF-1 $\alpha$ ) Induces Apoptosis of Human Uterosacral Ligament Fibroblasts Through the Death Receptor and Mitochondrial Pathways. Medical Journal of Experimental. December 2018. (IF 1.420)

[2] Wu Huihui,Sun Xiao,Zhang Zhaoqiang,et al. Deoxynivalenol impairs proliferation and induces apoptosis in primary murine osteoblasts. Toxicological & Environmental Chemistry. April 2018. (IF 0.971)

**Note: Please refer to the official website of Solarbio for more references on the use of this product.**