Data Sheet (Cat.No.TRP-00612)

TargetMol

Neutral protease, Paenibacillus polymyxa

Chemical Properties

CAS No. : 42613-33-2

Formula:

Molecular Weight:

Storage: Powder: -20°C for 3 years | In solvent: -80°C for 1 year
Actual storage temperature shall be subject to the COA.

Biological Description

Description	Neutral protease, Paenibacillus polymyxa is a neutral protease with strong fibronectinase and type IV collagenase activities. It can be used to separate intact epidermis from dermis and to detach intact epithelial sheets cultured in vitro from their substrates.
Targets(IC50)	Endogenous Metabolite
In vitro	Usage instructions: 1. Solution preparation: Dissolve the freeze-dried powder in DPBS buffer saline solution (without calcium and magnesium ions) to prepare a 10 mg/mL stock solution, and perform sterilization filtration using a 0.22 μM filter membrane. When using, dilute the stock solution with DPBS to the working concentration. The commonly used working concentration for cell separation is 0.6 - 2.4 U/mL. Note: The working concentration should not exceed 2.4 U/mL. 2. Tissue dissociation: Use sterile knives or scissors to cut the tissue into 3 - 4 mm pieces. Wash with sterile PBS, then add Dispase II solution (0.6 - 2.4 U/mL) to ensure complete immersion, and incubate at 37°C. Stir gently during incubation until tissue dissociation is complete. For tissues that are difficult to dissociate, complete separation can usually be achieved within 1 hour, but prolonged incubation (e.g., several hours) has no significant effect on cell viability. If necessary, filter the digestion product using a sterile stainless steel mesh sieve to separate single cells and residual tissue blocks; or gently pour out the upper layer of cells after the large tissue precipitates, and use fresh dispase to further dissociate if necessary. Centrifuge to collect the cells and discard the enzyme solution. Resuspend the cell pellet in culture medium and culture under normal conditions. 3. Cell passage: Treat the cells with 37°C preheated Dispase solution, incubate for 5 minutes, then remove the solution. Continue incubation for 10 minutes, observe the cell dissociation under a microscope, and if necessary, extend the incubation for 15 minutes. Resuspend the cells with culture medium, wash them, and replace with fresh culture medium to resuspend the cells. Follow the regular method for plating.

Solubility Information

Solubility	H2O: < 1 mg/mL (insoluble) (< 1 mg/ml refers to the product slightly soluble or insoluble)

In vivo Formulation	PBS: < 1 mg/mL (insoluble) *Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one. Dissolve by heating and/or sonication if necessary. Working solution is recommended to be prepared and used immediately. The formulation provided above is for reference purposes only. In vivo formulations may vary and should be modified based on specific experimental conditions.*

Reference

Stenn KS, et al. Dispase, a neutral protease from Bacillus polymyxa, is a powerful fibronectinase and type IV collagenase. J Invest Dermatol. 1989 Aug;93(2):287-90.

Calvo B, et al. Dissociation of neonatal and adult mice brain for simultaneous analysis of microglia, astrocytes and infiltrating lymphocytes by flow cytometry. IBRO Rep. 2020 Jan 13;8:36-47.