DNase I, Bovine pancreas

Cat. No.: HY-108882

CAS No.: 9003-98-9

Target: Others

Pathway: Others

Storage: Please store the product under the recommended conditions in the Certificate of Analysis.

DNase I, Bovine pancreas

SOLVENT & SOLUBILITY

In Vitro

DMSO : 43.48 mg/mL (adjust pH to 3 with 1M HCl)
H_2O : < 0.1 mg/mL (ultrasonic;warming;heat to 60°C) (insoluble)

In Vivo

1. Add each solvent one by one: Saline
   Solubility: 5 mg/mL (Infinity mM); Suspended solution; Need ultrasonic and warming and heat to 60°C
2. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.5 mg/mL (Infinity mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (Infinity mM); Clear solution

BIOLOGICAL ACTIVITY

Description

DNase I (EC 3.1.21.1) is an enzyme that degrade DNA, it plays a key role in the cleavage of extracellular DNA is crucial for limiting the inflammatory response and maintaining homeostasis. Exogenous deoxyribonuclease shows beneficial effects in inflammatory diseases and cancer[1].

In Vivo

Deoxyribonuclease (0.1 U; i.p.; once daily for 3 days) inhibits liver metastasis, besides results in a greater prolongation of the survival period by combining surgical removal of the primary tumour mass[1].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	Female BALB/c x DBA/2 mice with murine tumour L5178Y-ML cells subcutaneous injection [1]
Dosage:	0.1 U per mouse
Administration:	Intravenous injection; 0.1 U; once daily for three days
Result:	Reduced liver weight from 2.26 to 1.55 g, affected the intensity of liver metastasis, reduced the numbers and sizes of metastatic and affected tumour cell arrest.

Animal Model:	Female BALB/c x DBA/2 mice with murine tumour and surgical removal of subcutaneous tumours[1]
Dosage:	0.1 U per mouse
Administration:	Intravenous injection; 0.1 U; once daily for 3 days either before or after primary tumour removal
Result:	Significantly prolongated survival after tumour cell inoculation compared to the untreated group.

REFERENCES

[1]. Lauková L, et al. Deoxyribonucleases and Their Applications in Biomedicine. Biomolecules. 2020 Jul 11;10(7):1036.

[2]. Sugihara S, et al. Deoxyribonuclease treatment prevents blood-borne liver metastasis of cutaneously transplanted tumour cells in mice. Br J Cancer. 1993 Jan;67(1):66-70.

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