## Ammonium chloride, AR, 99.5%

MedChemExpress

®

Cat. No.:	HY-Y1269		
CAS No.:	12125-02-9		
Molecular Formula:	ClH₄N		
Molecular Weight:	53.49		
Target:	Autophagy		
Pathway:	Autophagy		
Storage:	Powder	-20°C	3 years
		4°C	2 years
	In solvent	-80°C	6 months
		-20°C	1 month

## SOLVENT & SOLUBILITY

In Vitro	H <sub>2</sub> O : 100 mg/mL (1869.51 mM; Need ultrasonic) DMSO : 50 mg/mL (934.75 mM; Need ultrasonic)					
	Preparing Stock Solutions	Solvent Mass Concentration	1 mg	5 mg	10 mg	
		1 mM	18.6951 mL	93.4754 mL	186.9508 mL	
		5 mM	3.7390 mL	18.6951 mL	37.3902 mL	
		10 mM	1.8695 mL	9.3475 mL	18.6951 mL	
	Please refer to the solubility information to select the appropriate solvent.					
In Vivo	1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline Solubility: ≥ 2.5 mg/mL (46.74 mM); Clear solution					
	2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline) Solubility: ≥ 2.5 mg/mL (46.74 mM); Clear solution					
	3. Add each solvent one by one: 10% DMSO >> 90% corn oil Solubility: ≥ 2.5 mg/mL (46.74 mM); Clear solution					

BIOLOGICAL ACTIVITY					
Description	Ammonium chloride, as a heteropolar compound with pH value regulation, can cause intracellular alkalization and metabolic acidosis thus effecting enzymatic activity and influencing the process of biological system. Ammonium chloride is an autophagy inhibitor <sup>[1][2]</sup> .				
In Vitro	Ammonium chloride (NH <sub>4</sub> Cl), a lysosomotropic agent that raises intralysosomal pH, reduces the yield of reovirus during infection of mouse L cells <sup>[2]</sup> .				

Product Data Sheet

NH<sub>4</sub>Cl

	MCE has not independently confirmed the accuracy of these methods. They are for reference only.		
In Vivo	Ammonium chloride (0.28 M in drinking water) promotes the survival of myocardial cells in vivo by decreasing contractile dysfunction, cardiac hypertrophy, inflammation, apoptosis and autophagy <sup>[1]</sup> . MCE has not independently confirmed the accuracy of these methods. They are for reference only.		
	Animal Model:	8-9-week-old C57B/L6 mice <sup>[1]</sup>	
	Dosage:	0.28 M in drinking water (5 mg/kg doxorubicin once a week for 2 weeks)	
	Administration:	0.28 M in drinking water (5 mg/kg doxorubicin once a week for 2 weeks)	
	Result:	Effectively improved doxorubicin (DOX)-induced cardiomyocyte apoptosis and cardiac dysfunction in mice.	

## **CUSTOMER VALIDATION**

- Antiviral Res. 2023 Apr 17;105606.
- PLoS Pathog. 2024 Feb 14;20(2):e1011981.
- Virol J. 2022 Sep 20;19(1):151.
- Research Square Preprint. 2023 Jun 22.

See more customer validations on <u>www.MedChemExpress.com</u>

## REFERENCES

[1]. Huang X, et al. NH4Cl treatment prevents doxorubicin-induced myocardial dysfunction in vivo. Life Sci. 2019;227:94-100.

[2]. Canning WM, Fields BN. Ammonium chloride prevents lytic growth of reovirus and helps to establish persistent infection in mouse L cells. Science. 1983;219(4587):987-988.

Caution: Product has not been fully validated for medical applications. For research use only.

 Tel: 609-228-6898
 Fax: 609-228-5909
 E-mail: tech@MedChemExpress.com

 Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA