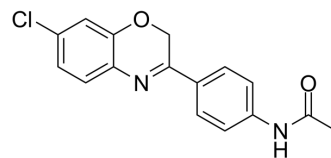


QX77

Cat. No.:	HY-112483		
CAS No.:	1798331-92-6		
Molecular Formula:	C ₁₆ H ₁₃ ClN ₂ O ₂		
Molecular Weight:	300.74		
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	DMSO : 15 mg/mL (49.88 mM); ultrasonic and warming and heat to 60°C				
		Solvent Concentration	Mass 1 mg	5 mg	10 mg
	Preparing Stock Solutions	1 mM	3.3251 mL	16.6257 mL	33.2513 mL
		5 mM	0.6650 mL	3.3251 mL	6.6503 mL
10 mM		0.3325 mL	1.6626 mL	3.3251 mL	
Please refer to the solubility information to select the appropriate solvent.					
In Vivo	1. Add each solvent one by one: 50% PEG300 >> 50% saline Solubility: 10 mg/mL (33.25 mM); Suspended solution; Need ultrasonic				

BIOLOGICAL ACTIVITY

Description	QX77 is a chaperone-mediated autophagy (CMA) activator and upregulates LAMP2A expression in vitro. QX77 induces Rab11 upregulation, rescues Rab11 down-regulation and trafficking deficiency in cystinotic cells ^[1] . QX77 can impede self-renewal and promote differentiation of ES cells ^[2] .
IC ₅₀ & Target	CMA ^[1]
In Vitro	<p>QX77 (48 hours) upregulates Rab11 expression levels in Ctns^{-/-} MEFs^[1].</p> <p>In Ctns^{-/-} MEFs, QX77 recovers the down-regulated LAMP2A expression, and the Rab11-positive carrier vesicles recover the high-motility trafficking phenotype observe in wild-type cells^[1].</p> <p>Treatment with CMA activator QX77 rescues Rab11 down-regulation and trafficking deficiency in cystinotic cells. QX77 treatment also increases LAMP2A localization at the lysosomal membrane^[1].</p> <p>QX77 significantly increases the re-localization of LAMP2A at LAMP1-positive lysosomes in cystinotic cell, it corrects the</p>

localization of LAMP2A at the lysosomal membrane in cystinotic cells^[1].

QX77 protects cystinotic cells from the increased susceptibility to tert-butyl-hydroperoxide-induced oxidative stress and reconstitutes the resistant levels observed in wild-type cells. The effect of QX77 on cystinotic cell survival is dependent on LAMP2A expression^[1].

QX77 (10 μ M; 0, 3 or 6 days) activates CMA and increases LAMP2A expression in D3 and E14 ES cell, it downregulates pluripotency factors and AP reactivity and partially lost the characteristic ES cell morphology^[2].

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

Western Blot Analysis^[2]

Cell Line:	ES D3 cell line; E14TG2a (E14) cell line
Concentration:	10 μ M
Incubation Time:	3 or 6 days
Result:	Increased LAMP2A expression and decreased SOX2 and Oct4 protein expression.

CUSTOMER VALIDATION

- Sci Adv. 2023 Oct 6;9(40):eadi8343.
- J Neuroinflammation. 2021 Dec 20;18(1):295.

See more customer validations on www.MedChemExpress.com

REFERENCES

[1]. Jinzhong Zhang, et al. Cystinosin, the small GTPase Rab11, and the Rab7 effector RILP regulate intracellular trafficking of the chaperone-mediated autophagy receptor LAMP2A. J Biol Chem. 2017 Jun 23;292(25):10328-10346

[2]. Yi Xu, et al. Chaperone-mediated autophagy regulates the pluripotency of embryonic stem cells. Science. 2020 Jul 24;369(6502):397-403.

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