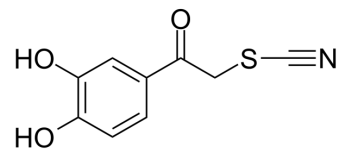


BiP inducer X

Cat. No.:	HY-110188		
CAS No.:	101714-41-4		
Molecular Formula:	C ₉ H ₇ NO ₃ S		
Molecular Weight:	209.22		
Target:	Apoptosis		
Pathway:	Apoptosis		
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 : 50 mg/mL (238.98 mM; Need ultrasonic)			
		Solvent Concentration	Mass	
			1 mg	5 mg
			10 mg	
Preparing Stock Solutions	1 mM	4.7797 mL	23.8983 mL	47.7966 mL
	5 mM	0.9559 mL	4.7797 mL	9.5593 mL
	10 mM	0.4780 mL	2.3898 mL	4.7797 mL
Please refer to the solubility information to select the appropriate solvent.				
In Vivo	1. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline) Solubility: ≥ 2.5 mg/mL (11.95 mM); Clear solution			

BIOLOGICAL ACTIVITY

Description	BiP inducer X, a selective inducer of immunoglobulin heavy chain binding protein (BiP)/GRP78, is an effective ER (endoplasmic reticulum) stress inhibitor. BiP inducer X preferentially induces BiP with slight inductions of GRP94, calreticulin, and C/EBP homologous protein. BiP inducer X protects neurons from ER stress ^{[1][2]} .
In Vitro	BiP inducer X (5 μM; 0-12 hours; SK-N-SH cells) increase BiP protein ^[1] . The induction of BiP by BiP inducer X (BIX) is mediated by activation of ER stress response elements (ERSEs) through the ATF6 pathway ^[1] . BiP inducer X (5 μM; 12 hours; pretreatment with SK-N-SH cells) inhibits cell death induced by ER stress involving inhibited activation of caspases 3/7 and 4 ^[1] . MCE has not independently confirmed the accuracy of these methods. They are for reference only.
In Vivo	BiP inducer X administration reduces the insults due to cerebral infarction ^[1] .

A 20 µg portion of BiP inducer X administration reduces ER stress-induced apoptosis induced in the penumbra by MCA occlusion^[1].

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

Animal Model:	Male adult ddY mice weighing 24-34 g (Japan SLC) ^[1]
Dosage:	20 µg (2 µl)
Administration:	Intracerebroventricularly
Result:	Significantly increased the level of BiP protein 24 h after administration, confirming that administration of BIX induces BiP protein in vivo.

CUSTOMER VALIDATION

- iScience. 2023 Oct 11.
- Aquaculture. 2023 Jun 8, 739757.
- Neurochem Int. 2023 Jul 14;105573.
- Research Square Print. 2023 Mar 6.

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REFERENCES

[1]. Kudo T, et al. A molecular chaperone inducer protects neurons from ER stress. *Cell Death Differ.* 2008;15(2):364-375.

[2]. Yoo SA, et al. A novel pathogenic role of the ER chaperone GRP78/BiP in rheumatoid arthritis. *J Exp Med.* 2012;209(4):871-886.

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

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