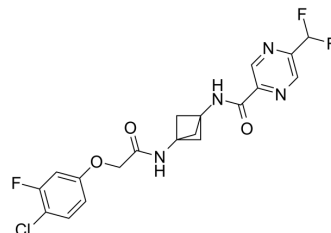


2BAct

Cat. No.:	HY-125021
CAS No.:	2143542-28-1
Molecular Formula:	C ₁₉ H ₁₆ ClF ₃ N ₄ O ₃
Molecular Weight:	441
Target:	Eukaryotic Initiation Factor (eIF)
Pathway:	Cell Cycle/DNA Damage
Storage:	4°C, protect from light * In solvent : -80°C, 6 months; -20°C, 1 month (protect from light)



SOLVENT & SOLUBILITY

In Vitro	DMSO : 250 mg/mL (566.89 mM; Need ultrasonic)						
	Preparing Stock Solutions	Solvent Concentration	Mass	1 mg	5 mg	10 mg	
				1 mM	2.2676 mL	11.3379 mL	22.6757 mL
				5 mM	0.4535 mL	2.2676 mL	4.5351 mL
				10 mM	0.2268 mL	1.1338 mL	2.2676 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: ≥ 2.08 mg/mL (4.72 mM); Clear solution						
	2. Add each solvent one by one: 10% DMSO >> 90% corn oil Solubility: ≥ 2.08 mg/mL (4.72 mM); Clear solution						

BIOLOGICAL ACTIVITY

Description	2BAct is a highly selective, and orally active eIF2B (eukaryotic initiation factor 2B) activator with an EC ₅₀ of 33 nM. 2BAct prevents neurological defects caused by a chronic integrated stress response. 2BAct is able to penetrate the central nervous system (CNS). 2BAct displays improved solubility and pharmacokinetics relative to eIF2B activator ISRIB trans-isomer (HY-12495) ^[1] .
IC ₅₀ & Target	eIF2
In Vitro	Primary fibroblast lysates from R191H embryos has lower GEF activity than WT lysates, and 2BAct enhances this activity threefold (EC ₅₀ =7.3 nM) ^[1] . MCE has not independently confirmed the accuracy of these methods. They are for reference only.

In Vivo

2BAct (300 µg 2BAct/g of meal; 21 weeks) normalizes body weight gain in VWM mice^[1].

2BAct prevents the appearance of motor deficits, myelin loss and reactive gliosis in VWM mice^[1].

2BAct stimulates the remaining activity of mutant eIF2B complex in vivo, abrogating the maladaptive stress response^[1].

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

REFERENCES

[1]. Wong YL, et al. eIF2B activator prevents neurological defects caused by a chronic integrated stress response. *Elife*. 2019;8:e42940. Published 2019 Jan 9.

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

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