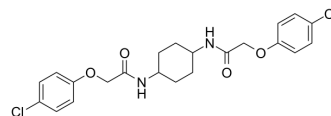


## ISRIB

<b>Cat. No.:</b>	HY-12495A		
<b>CAS No.:</b>	548470-11-7		
<b>Molecular Formula:</b>	C <sub>22</sub> H <sub>24</sub> Cl <sub>2</sub> N <sub>2</sub> O <sub>4</sub>		
<b>Molecular Weight:</b>	451.34		
<b>Target:</b>	Biochemical Assay Reagents; Eukaryotic Initiation Factor (eIF)		
<b>Pathway:</b>	Others; Cell Cycle/DNA Damage		
<b>Storage:</b>	Powder	-20°C	3 years
		4°C	2 years
	In solvent	-80°C	6 months
		-20°C	1 month



## SOLVENT & SOLUBILITY

<b>In Vitro</b>	DMSO : 6.25 mg/mL (13.85 mM; ultrasonic and warming and heat to 60°C)				
<b>Preparing Stock Solutions</b>	<b>Solvent</b>	<b>Mass</b>	<b>1 mg</b>	<b>5 mg</b>	<b>10 mg</b>
	<b>Concentration</b>				
	<b>1 mM</b>		2.2156 mL	11.0781 mL	22.1562 mL
	<b>5 mM</b>		0.4431 mL	2.2156 mL	4.4312 mL
	<b>10 mM</b>		0.2216 mL	1.1078 mL	2.2156 mL
Please refer to the solubility information to select the appropriate solvent.					
<b>In Vivo</b>	1. 45% saline, 50% PEG 400, 5% DMSO				

## BIOLOGICAL ACTIVITY

<b>Description</b>	ISRIB is a brain-penetrant inhibitor of integrated stress response (ISR). Persistent activation of the ISR has been linked to the development of several neurological disorders as ISR represses translation through inhibiting eIF2B. ISRIB inhibits the ISR by promoting the nucleotide exchange activity of eIF2B and recovering the translation, and thus can be used for neurological disorders research <sup>[1][2][3]</sup> .
<b>In Vitro</b>	ISRIB (200 nM, 2 h) blocks stress granule formation induced by eIF2α phosphorylation in U2OS cells <sup>[3]</sup> . MCE has not independently confirmed the accuracy of these methods. They are for reference only.
<b>In Vivo</b>	ISRIB (0.25 mg/kg, i.p., daily) restores translation in prion-diseased mice at downstream of eIF2α phosphorylation, conferring neuroprotection in prion-diseased mice <sup>[2]</sup> . MCE has not independently confirmed the accuracy of these methods. They are for reference only.

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## CUSTOMER VALIDATION

- Nature. 2023 Sep;621(7977):188-195.
- Int J Biol Sci. 2024 Mar 25; 20(6):2219-2235.
- Cell Commun Signal. 2023 Jun 29;21(1):167.
- Heliyon. 2024 Feb 23.
- Research Square Preprint. 2024 Mar 21.

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## REFERENCES

- [1]. Zyryanova AF, et al. ISRIB Blunts the Integrated Stress Response by Allosterically Antagonising the Inhibitory Effect of Phosphorylated eIF2 on eIF2B. Mol Cell. 2021 Jan 7;81(1):88-103.e6.
- [2]. Halliday M, et al. Partial restoration of protein synthesis rates by the small molecule ISRIB prevents neurodegeneration without pancreatic toxicity. Cell Death Dis. 2015 Mar 5;6(3):e1672.
- [3]. Sidrauski C, et al. The small molecule ISRIB reverses the effects of eIF2 $\alpha$  phosphorylation on translation and stress granule assembly. Elife. 2015 Feb 26;4:e05033.
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**Caution: Product has not been fully validated for medical applications. For research use only.**

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