

产品名称: ISRIB

产品别名: ISRIB (trans-isomer)

生物活性:																									
Description	ISRIB (trans-isomer) is a potent inhibitor of PERK with an IC ₅₀ of 5 nM.																								
IC₅₀ & Target	PERK																								
	5 nM (IC ₅₀)																								
In Vitro	Trans-ISRIB is 100-fold more potent (IC ₅₀ =5 nM) than cis-ISRIB (IC ₅₀ = 600 nM), indicating that the compound's interaction with its cellular target is stereospecific. ISRIB reduces the viability of cells subjected to PERK-activation by chronic endoplasmic reticulum stress[1]. ISRIB substantially reverses the translational effects elicited by phosphorylation of eIF2 α and induces no major changes in translation or mRNA levels in unstressed cells. eIF2 α phosphorylation-induced stress granule (SG) formation is blocked by ISRIB[2].																								
In Vivo	ISRIB increases long-term memory in rodents. ISRIB-treated mice display significant enhancement in spatial and fear-associated learning. ISRIB displays a half-life in plasma of 8 hr and readily crossed the blood-brain barrier, quickly equilibrating with the central nervous system[1].																								
Solvent&Solubility	<p>In Vitro:</p> <p>DMSO : \geq 38 mg/mL (84.19 mM)</p> <p>* "\geq" means soluble, but saturation unknown.</p>																								
	<table border="1"> <thead> <tr> <th rowspan="2">Preparing</th> <th>Solvent</th> <th>Mass</th> <th rowspan="2">1 mg</th> <th rowspan="2">5 mg</th> <th rowspan="2">10 mg</th> </tr> <tr> <th colspan="2">Concentration</th> </tr> </thead> <tbody> <tr> <td rowspan="3">Stock Solutions</td> <td>1 mM</td> <td></td> <td>2.2156 mL</td> <td>11.0781 mL</td> <td>22.1562 mL</td> </tr> <tr> <td>5 mM</td> <td></td> <td>0.4431 mL</td> <td>2.2156 mL</td> <td>4.4312 mL</td> </tr> <tr> <td>10 mM</td> <td></td> <td>0.2216 mL</td> <td>1.1078 mL</td> <td>2.2156 mL</td> </tr> </tbody> </table>	Preparing	Solvent	Mass	1 mg	5 mg	10 mg	Concentration		Stock Solutions	1 mM		2.2156 mL	11.0781 mL	22.1562 mL	5 mM		0.4431 mL	2.2156 mL	4.4312 mL	10 mM		0.2216 mL	1.1078 mL	2.2156 mL
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<p>*请根据产品在不同溶剂中的溶解度选择合适的溶剂配制储备液。一旦配成溶液，请分装保存，避免反复冻融造成的产品失效。</p> <p>储备液的保存方式和期限: -80°C, 6 months; -20°C, 1 month。-80°C 储存时，请在 6 个月内使用，-20°C 储存时，请在 1 个月内使用。</p>																									
References	<p>[1]. Sidrauski C, et al. Pharmacological brake-release of mRNA translation enhances cognitive memory. <i>Elife</i>. 2013 May 28;2:e00498.</p> <p>[2]. Sidrauski C, et al. The small molecule ISRIB reverses the effects of eIF2α phosphorylation on translation and stressgranule assembly. <i>Elife</i>. 2015 Feb 26;4. doi: 10.7554/eLife.05033.</p>																								
实验参考:																									
Cell Assay	U2OS cells are plated on 96-well plates and left to recover overnight. Cells are treated with either with 2 μ g/ml tunicamycin or 100 nM thapsigargin in the presence or absence of 100 nM ISRIB or with ISRIB alone for the indicated and the level of eIF2 α phosphorylation is determined[1].																								
Animal Administration	<p>Mice: Intra-peritoneal (ip) route of administration is performed on 6-7 wk old female CD-1 mice.</p> <p>Animals receives a single, 5 mg/kg dose in groups of three mice/compound/route of administration.</p> <p>ISRIB is dissolved in DMSO then diluted 1:1 in Super-Refined PEG 400. Blood (80 μL) is collected from the saphenous vein at intervals post-dosing (20 min, 1 hr, 3 hr, 8 hr, 24 hr) in EDTA containing collection tubes and plasma is prepared for analysis. Compounds are detected by time-of-flight mass spectroscopy[1].</p>																								

References

[1]. Sidrauski C, et al. Pharmacological brake-release of mRNA translation enhances cognitive memory. *Elife*. 2013 May 28;2:e00498.

[2]. Sidrauski C, et al. The small molecule ISRIB reverses the effects of eIF2 α phosphorylation on translation and stressgranule assembly. *Elife*. 2015 Feb 26;4. doi: 10.7554/eLife.05033.



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