

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 <b>PERK</b> with an <b>IC<sub>50</sub></b> of 5 nM.				
IC <sub>50</sub> & Target	PERK				
	5 nM (IC <sub>50</sub> )				
In Vitro	Trans-ISRIB is 100-fold more potent (IC <sub>50</sub> =5 nM) than cis-ISRIB (IC <sub>50</sub> = 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 eIF2α and induces no major changes in translation or mRNA levels in unstressed cells. eIF2α 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	<b><i>In Vitro:</i></b> <b>DMSO : ≥ 38 mg/mL (84.19 mM)</b>  * "≥" means soluble, but saturation unknown.				
	Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
		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
	*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。  储备液的保存方式和期限：-80℃，6 months；-20℃，1 month。-80℃ 储存时，请在 6 个月内使用，-20℃ 储存时，请在 1 个月内使用。				
References	[1]. Sidrauski C, et al. Pharmacological brake-release of mRNA translation enhances cognitive memory. <u>Elife. 2013 May 28;2:e00498.</u>  [2]. Sidrauski C, et al. The small molecule ISRIB reverses the effects of eIF2α phosphorylation on translation and stressgranule assembly. <u>Elife. 2015 Feb 26;4. doi: 10.7554/eLife.05033.</u>				

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 μg/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 eIF2α phosphorylation is determined[1].
Animal Administration	Mice: Intra-peritoneal (ip) route of administration is performed on 6-7 wk old female CD-1 mice.  Animals receives a single, 5 mg/kg dose in groups of three mice/compound/route of administration.  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].

<b>References</b>	<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 eIF2<math>\alpha</math> phosphorylation on translation and stressgranule assembly. <i>Elife</i>. 2015 Feb 26;4. doi: 10.7554/eLife.05033.</p>
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源叶生物