

DATA SHEET

Product Name: ISRIB

Catalog #: N-1539

Alt: N,N'-*trans*-1,4-cyclohexanediyibis[2-(4-chlorophenoxy)acetamide]; *trans*-ISRIB

Source: Synthetic

Molecular Mass: 451.3 C₂₂H₂₄Cl₂N₂O₄

Analysis: 98% (TLC); NMR (Conforms)

Supplied As: White powder

Resuspension: May be dissolved in DMSO (5 mg/ml, warm)

Storage: Store desiccated as supplied at -20°C for up to 2 years. Store solutions at -20°C for up to 3 months.

Description: Integrated stress response inhibitor. Potently reverses the effects of initiation factor 2 α (eIF2 α) phosphorylation, IC₅₀=5 nM¹. Enhances spatial and fear-associated learning in mice and enhances cognitive function^{1,2}. Mechanism of action involves activation of eIF2 β ³. Suppresses ER stress-induced inflammatory gene expression⁴. Potently attenuates amyloid β -induced neuronal cell death (12.5-25 nM) with no effect on amyloid β production⁵. Reverses hippocampal-dependent cognitive deficits induced by traumatic brain injury in two different injury mouse models⁶.

References:

1. Sidrauski, C., et al., (2013) *Elife*, 2: e00498
2. Sekine, Y., et al., (2015) *Science*, 348: 1027
3. Sidrauski, C., et al., (2015) *Elife*, 4: e07314
4. Guthrie, L.N., et al., (2015) *J. Biol. Chem.*, 291: 15830
5. Hosoi, T., et al., (2016) *J. Pharmacol. Sci.*, 131: 292
6. Chou, A., et al., (2017) *Proc. Natl. Acad. Sci., USA*, 114: E6420

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