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ISRIB (trans-isomer)

产品编号: D50795

CAS: 1597403-47-8

分子式: C22H24Cl2N2O4

纯度: ≥98%

InChi: InChI=1S/C22H24Cl2N2O4/c23-15-1-9-19(10-2-15)29-13-21(27)25-17-5-7-18(8-6-17)26-22(28)14-30-20-11-3-16(24)4-12-20/h1-4,9-12,17-18H,5-8,13-14H2,(H,25,27)(H,26,28)/t17-,18-

InChi Key: HJGMCDHQPXTGAV-IYARVYRRSA-N

Smiles: O=C(COC1C=CC(Cl)=CC=1)N[C@@H]1CC[C@H](CC1)NC(=O)COC1C=CC(Cl)=CC=1

外观: 固体粉末

作用通路: Apoptosis

溶解性: DMSO up to 100 mM

保存条件: Store in dry, dark place for one year.

产品介绍: In cells, distinct stress conditions activate different downstream kinases, including PERK, that converge on phosphorylating the α-subunit of initiation factor 2 (eIF2α). This collection of signaling pathways is termed the ‘integrated stress response(ISR). Trans-ISRIB is a potent and selective small molecule inhibitor of PERK signaling (IC50 ~5 nM) that can potently reverse the effects of eIF2α phosphorylation. ISRIB reduces the viability of cells subjected to PERK-activation by chronic endoplasmic reticulum (ER) stress. The deleterious synergistic effect between ER-stress and ISRIB may be generally advantageous to kill cancer cells, especially those derived from secretory lineages that have increased secretory load and increased basal levels of ER stress (including myelomas, and pancreatic and breast cancers). Importantly, by acting downstream of eIF2α phosphorylation, ISRIB blocks multiple stress effectors. eIF2α phosphorylation is also implicated in memory consolidation. Remarkably, ISRIB-treated mice display significant enhancement in spatial and fear-associated learning. Thus, memory consolidation is inherently limited by the ISR, and ISRIB releases this brake. ISRIB may serve as an invaluable tool in deciphering higher order brain functions and perhaps be further developed as a therapeutic agent effecting memory impairment.