PRODUCT INFORMATION

4EGI-1
Item No. 15362

CAS Registry No.: 315706-13-9
Formal Name: α-[2-[4-(3,4-dichlorophenyl)-2-thiazolyl]hydrazinylidene]-2-nitrobenzenepropanoic acid
Synonym: elf4E/elf4G Interaction Inhibitor
MF: C_{18}H_{12}Cl_{2}N_{4}O_{4}S
FW: 451.3
Purity: ≥ 95%
UV/Vis.: \( \lambda_{max} \): 256, 294 nm
Supplied as: A crystalline solid
Storage: -20°C
Stability: As supplied, 2 years from the QC date provided on the Certificate of Analysis, when stored properly

Laboratory Procedures

For long term storage, we suggest that 4EGI-1 be stored as supplied at -20°C. It should be stable for at least two years.

4EGI-1 is supplied as a crystalline solid. A stock solution may be made by dissolving the 4EGI-1 in the solvent of choice. 4EGI-1 is soluble in organic solvents such as DMSO and dimethyl formamide, which should be purged with an inert gas. The solubility of 4EGI-1 in these solvents is approximately 30 mg/ml.

4EGI-1 is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, 4EGI-1 should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. 4EGI-1 has a solubility of approximately 0.5 mg/ml in a 1:1 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

In eukaryotes, a set of initiation factors (elFs) interact with ribosomal subunits to initiate mRNA translation. A major step in initiation is the assembly of a large multiprotein complex that includes the cap-binding protein elf4E and the multidomain adaptor protein elf4G. 4EGI-1 is an inhibitor of the initiation of translation that blocks the interaction of elf4G with elf4E (K_D = 25 µM). It directly binds elf4E, competitively inhibiting an association with elf4G that is necessary for cap-dependent translation. 4EGI-1 prevents the expression of oncopogenic proteins in mammalian cancer cells, leading to apoptosis. Research with this inhibitor supports a role for normal elf4E/elf4G interaction in memory consolidation and excess interaction in autism spectrum disorders. 4EGI-1 also blocks translation in some viruses that do not require elf4E or a cap structure for initiation.

References