

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: eIF4E/eIF4G Interaction Inhibitor

MF: C₁₈H₁₂Cl₂N₄O₄S

FW: 451.3

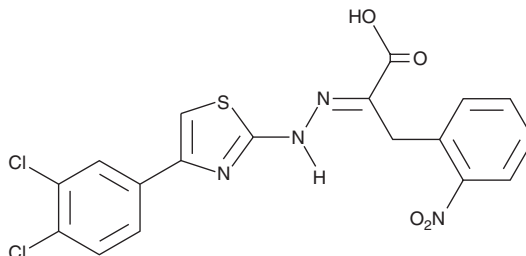
Purity: $\geq 95\%$

UV/Vis.: λ_{\max} : 256, 294 nm

Supplied as: A crystalline solid

Storage: -20°C

Stability: ≥ 4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

4EGI-1 is supplied as a crystalline solid. A stock solution may be made by dissolving the 4EGI-1 in the solvent of choice, which should be purged with an inert gas. 4EGI-1 is soluble in organic solvents such as DMSO and dimethyl formamide. 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 (eIFs) interact with ribosomal subunits to initiate mRNA translation.¹ A major step in initiation is the assembly of a large multiprotein complex that includes the cap-binding protein eIF4E and the multidomain adaptor protein eIF4G.¹ 4EGI-1 is an inhibitor of the initiation of translation that blocks the interaction of eIF4G with eIF4E ($K_D = 25 \mu\text{M}$).² It directly binds eIF4E, competitively inhibiting an association with eIF4G that is necessary for cap-dependent translation.² 4EGI-1 prevents the expression of oncogenic proteins in mammalian cancer cells, leading to apoptosis.²⁻⁴ Research with this inhibitor supports a role for normal eIF4E/eIF4G interaction in memory consolidation and excess interaction in autism spectrum disorders.⁵⁻⁷ 4EGI-1 also blocks translation in some viruses that do not require eIF4E or a cap structure for initiation.⁸

References

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4. Chen, L., Aktas, B.H., Wang, Y., et al. *Oncotarget* **3**(8), 869-881 (2012).
5. Hoeffler, C.A., Cowansage, K.K., Arnold, E.C., et al. *Proc. Natl. Acad. Sci. USA* **108**(8), 3383-3388 (2011).
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WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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