

CLK1/2-IN-3

Chemical Properties

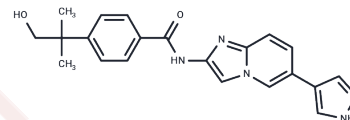
CAS No. : 1005784-60-0

Formula: C₂₁H₂₁N₅O₂

Molecular Weight: 375.42

Storage: Powder: -20°C for 3 years | In solvent: -80°C for 1 year

Actual storage temperature shall be subject to the COA.



Biological Description

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|---------------|--|
| Description | CLK1/2-IN-3 (Cpd-3) is a potent and selective CLK1 and CLK2 inhibitor with antiproliferative activity and inhibits the activities of CLK1, CLK2, SRPK1, SRPK2, and SRPK3. CLK1/2-IN-3 induces nuclear speckle enlargement, which induces S6K pre-mRNA-selective splicing and subsequent inhibition of cell growth of multiple cancer cell types. cancer cell types cell growth. |
| Targets(IC50) | CDK,Serine/threonin kinase |
| In vitro | Exposure to CLK1/2-IN-3 (compound 3) at concentrations of 1.1-3.3 μM for 72 hours increases the expression of S6K mRNAs in MDA-MB-468 cells[1]. Significant reduction in the levels of endogenous phosphorylated SR proteins is observed with CLK1/2-IN-3 (5 μM)[1]. Anti-proliferative activity is demonstrated by CLK1/2-IN-3 (1-10 μM) with GI50s of 3.4, 2.6, 2.1, 2.5, 2.2, 2.9, 1.5 μM for MDA-MB-468, A549, COLO205, HCT-116, NCI-H23, SW620, COLO320DM cells, respectively[1]. |

Solubility Information

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|------------|---|
| Solubility | DMSO: 3.76 mg/mL (10.02 mM), Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble) |
|------------|---|

Preparing Stock Solutions

| | 1mg | 5mg | 10mg |
|-------|-----------|------------|------------|
| 1 mM | 2.6637 mL | 13.3184 mL | 26.6368 mL |
| 5 mM | 0.5327 mL | 2.6637 mL | 5.3274 mL |
| 10 mM | 0.2664 mL | 1.3318 mL | 2.6637 mL |
| 50 mM | 0.0533 mL | 0.2664 mL | 0.5327 mL |

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Reference

- Araki S, et al. Inhibitors of CLK protein kinases suppress cell growth and induce apoptosis by modulating pre-mRNA splicing. *PLoS One*. 2015;10(1):e0116929. Published 2015 Jan 12.
- Jain P, Karthikeyan C, Moorthy NS, Waiker DK, Jain AK, Trivedi P. Human CDC2-like kinase 1 (CLK1): a novel target for Alzheimer's disease. *Curr Drug Targets*. 2014 May;15(5):539-50. Review. PubMed PMID: 24568585.
- Montes-Grajales D, Olivero-Verbel J. Computer-aided identification of novel protein targets of bisphenol A. *Toxicol Lett*. 2013 Oct 9;222(3):312-20. doi: 10.1016/j.toxlet.2013.08.010. Epub 2013 Aug 20. PubMed PMID: 23973438.
- Wong R, Balachandran A, Mao AY, Dobson W, Gray-Owen S, Cochrane A. Differential effect of CLK SR Kinases on HIV-1 gene expression: potential novel targets for therapy. *Retrovirology*. 2011 Jun 17;8:47. doi: 10.1186/1742-4690-8-47. PubMed PMID: 21682887; PubMed Central PMCID: PMC3148977.

Inhibitor · Natural Compounds · Compound Libraries · Recombinant Proteins

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