

D-3

Chemical Properties

CAS No. : 1967815-98-0

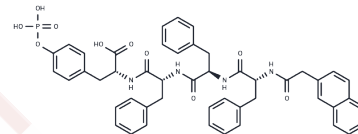
Formula: C₄₈H₄₇N₄O₁₀P

Molecular Weight: 870.896

Keep away from moisture

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

| | |
|---------------|---|
| Description | D-3 (phosphorpeptide) is an efficient, simple, and specific agent for eliminating iPSCs. |
| Targets(IC50) | Phosphatase |
| In vitro | D-3 effectively inhibits the formation of teratomas by residual induced pluripotent stem cells (iPSCs) in a mouse model, as demonstrated in a tumorigenicity assay[1]. It significantly reduces the viability of 201B7 cells, with a half maximal inhibitory concentration (IC50) of 192.3 ± 57.4 μM[1]. The compound promotes an increase in the activation of proteins such as eIF2a, p38, and p44/42 MAPK, which are known to respond to cellular stress. Additionally, D-3 treatment results in a higher incidence of apoptotic and dead cells as indicated by an increase in Annexin-V and SYTOX-positive cells[1]. Importantly, D-3 exhibits minimal effects on various non-iPSC cell types, including hepatocytes and neurons[1]. A Cell Viability Assay reveals that a concentration of 400 μM D-3 for 1-2 hours is sufficient to significantly decrease cell viability in six human iPSC lines and the human embryonic stem cell (ESC) line khES1, with over 99% viability loss in all iPSC lines and more than 95% in khES1[1]. |

Preparing Stock Solutions

| | 1mg | 5mg | 10mg |
|-------|------------|------------|-------------|
| 1 mM | 1.1482 mL | 5.7412 mL | 11.4824 mL |
| 5 mM | 0.2296 mL | 1.1482 mL | 2.2965 mL |
| 10 mM | 0.1148 mL | 0.5741 mL | 1.1482 mL |
| 50 mM | 0.023 mL | 0.1148 mL | 0.2296 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

Yi Kuang, et al. Efficient, Selective Removal of Human Pluripotent Stem Cells via Ecto-Alkaline Phosphatase-Mediated Aggregation of Synthetic Peptides. Cell Chem Biol. 2017 Jun 22;24(6):685-694.e4.

Inhibitor · Natural Compounds · Compound Libraries · Recombinant Proteins

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