

KL1333

## Chemical Properties

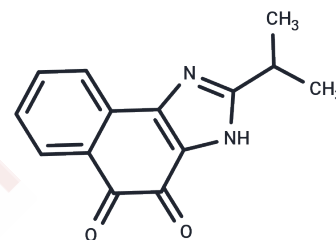
CAS No. : 1800405-30-4

Formula: C<sub>14</sub>H<sub>12</sub>N<sub>2</sub>O<sub>2</sub>

Molecular Weight: 240.26

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   | KL1333 (NQO1 activator 1) enhances energy metabolism and mitochondrial dysfunction in MELAS fibroblasts. Elevated NAD <sup>+</sup> levels trigger the activation of SIRT1 and AMPK, and subsequently activates PGC-1 $\alpha$ . NQO1 activator 1 is an orally available NAD <sup>+</sup> modulator. It reacts with NAD(P)H: NQO1 as a substrate, resulting in increases in intracellular NAD <sup>+</sup> levels via NADH oxidation. |
| Targets(IC50) | Reductase,Mitochondrial Metabolism,NADPH   |

## Solubility Information

|                     |   |
|---------------------|---|
| Solubility          | DMSO: 245 mg/mL (1019.73 mM),Sonication is recommended.<br>(< 1 mg/ml refers to the product slightly soluble or insoluble)  |
| In vivo Formulation | 10% DMSO+40% PEG300+5% Tween 80+45% Saline: 5 mg/mL (20.81 mM),Sonication is recommended.<br><i>Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one. Dissolve by heating and/or sonication if necessary. Working solution is recommended to be prepared and used immediately. The formulation provided above is for reference purposes only. In vivo formulations may vary and should be modified based on specific experimental conditions.</i> |

### Preparing Stock Solutions

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|       | <b>1mg</b> | <b>5mg</b> | <b>10mg</b> |
|-------|------------|------------|-------------|
| 1 mM  | 4.1622 mL  | 20.8108 mL | 41.6216 mL  |
| 5 mM  | 0.8324 mL  | 4.1622 mL  | 8.3243 mL   |
| 10 mM | 0.4162 mL  | 2.0811 mL  | 4.1622 mL   |
| 50 mM | 0.0832 mL  | 0.4162 mL  | 0.8324 mL   |

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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

Seo KS, et al. KL1333, a Novel NAD<sup>+</sup> Modulator, Improves Energy Metabolism and Mitochondrial Dysfunction in MELAS Fibroblasts. *Front Neurol.* 2018 Jul 5;9:552.

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Tel:781-999-4286 E\_mail:info@targetmol.com Address:34 Washington Street,Wellesley Hills,MA 02481