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Produktinformation



Forschungsprodukte & Biochemikalien



Zellkultur & Verbrauchsmaterial



Diagnostik & molekulare Diagnostik



Laborgeräte & Service

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Lieferung & Zahlungsart

siehe unsere [Liefer- und Versandbedingungen](#)

Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

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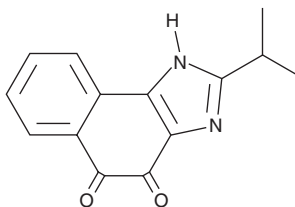
PRODUCT INFORMATION



KL1333

Item No. 39670

CAS Registry No.: 1800405-30-4
Formal Name: 2-(1-methylethyl)-3H-naphth[1,2-d]imidazole-4,5-dione
MF: C₁₄H₁₂N₂O₂
FW: 240.3
Purity: ≥98%
Supplied as: A 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

KL1333 is supplied as a solid. A stock solution may be made by dissolving the KL1333 in the solvent of choice, which should be purged with an inert gas. KL1333 is soluble (≥10 mg/ml) in DMSO.

Description

KL1333 is a substrate for NAD(P)H:quinone acceptor oxidoreductase 1 (NQO1) and a derivative of the quinone β-lapachone (Item No. 15021).¹ It is converted by NQO1 to NAD⁺ and increases the ratio of NAD⁺ to NADH in a cell-free assay, as well as C2C12 and L6 myoblasts, when used at concentrations of 1, 1, or 2 μM, respectively. KL1333 (1 μM) increases intracellular ATP levels, as well as decreases intracellular lactate and reactive oxygen species (ROS) levels, in primary fibroblasts isolated from patients with the inborn error of metabolism mitochondrial encephalomyopathy, lactic acidosis, and stroke-like episodes (MELAS). It increases the levels of mitochondrial complex I, also known as NADH dehydrogenase, and mitochondrial complex III, also known as cytochrome bc1 complex, as well as increases the oxygen consumption rate (OCR), in primary fibroblasts isolated from patients with MELAS when used at a concentration of 1 μM. KL1333 (1 μM) inhibits apoptosis, the production of mitochondrial ROS, and mitochondrial membrane depolarization induced by the DNA-crosslinking agent cisplatin (Item No. 13119) in primary mouse cochlear organ of Corti cells.²

References

1. Seo, K.-S., Kim, J.-H., Min, K.-N., *et al.* KL1333, a novel NAD⁺ Modulator, improves energy metabolism and mitochondrial dysfunction in MELAS fibroblasts. *Front. Neurol.* **9**, 552 (2018).
2. Lee, H.-S., Kim, Y.-R., Lee, I.-K., *et al.* KL1333, a derivative of β-lapachone, protects against cisplatin-induced ototoxicity in mouse cochlear cultures. *Biomed. Pharmacother.* **126**, 110068 (2020).

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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