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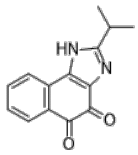
Data Sheet

Global Supplier of Chemical Probes, Inhibitors & Agonists.

Product Name	:	KL1333
Cat. No.	:	PC-24962
CAS No.	:	1800405-30-4
Molecular Formula	:	$C_{14}H_{12}N_2O_2$
Molecular Weight	:	240.26
Target	:	Other Targets
Solubility	:	10 mM in DMSO



CAS: 1800405-30-4

Biological Activity

KL1333 (Napazimone) is an orally available, small molecule NAD+ modulator, reacts with NAD(P)H:quinone oxidoreductase 1 (NQO1) as a substrate, resulting in increases in intracellular NAD+ levels via NADH oxidation.
KL1333 is significantly more active and potent than idebenone and CoQ10.
KL1333 increases the intracellular NAD+/NADH ratio, in C2C12 mouse myoblasts, L6 rat myoblasts, and HepG2 human hepatocarcinoma cells, which could be blocked by the NQO1-specific inhibitor ES936.
KL1333 activates SIRT1 and AMPK in a NQO1-dependent manner, induces PGC-1α activation in C2C12 myoblasts.
KL1333 (1 uM) regulates intracellular ATP, lactate, and ROS levels, increases the NAD+/NADH ratio and activates SIRT1, AMPK, and PGC-1α in MELAS fibroblasts.
KL1333 is an activator of the SIRT1/AMPK/PGC-1α signaling network.

References

Seo KS, et al. Front Neurol. 2018 Jul 5;9:552.

Lee HS, et al. Biomed Pharmacother. 2020 Jun;126:110068.

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