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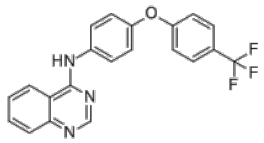
Data Sheet

Global Supplier of Chemical Probes, Inhibitors & Agonists.

Product Name	:	ND-011992
Cat. No.	:	PC-20990
CAS No.	:	2446880-46-0
Molecular Formula	:	$C_{21}H_{14}F_3N_3O$
Molecular Weight	:	381.36
Target	:	Bacterial
Solubility	:	10 mM in DMSO



CAS: 2446880-46-0

Biological Activity

ND-011992 is a cytochrome bd oxidase (**Cyt-bd**) inhibitor, inhibits Mycobacterium tuberculosis respiratory complex I with IC50 of 0.12 uM, targets respiratory complex I and bo3 oxidase in addition to bd-I and bd-II oxidases.
ND-011992 is active against M. tuberculosis H37Rv with IC50 of 2.8-4.2 μM.
ND-011992 synergizes with Q203 to inhibit ATP production and growth in mycobacteria.
ND-011992 lowers the minimum inhibitory concentration 50% (MIC50) of Q203 (Cat. PC-42302) from 3.16 to 0.97 nM in M. tuberculosis H37Rv.
ND-011992 inhibits oxygen consumption in the presence of Q203.
ND-011992 inhibits M. bovis BCG oxygen consumption rate (OCR) with IC50 of 0.8 uM.
ND-011992 does not affect electron transfer within the cytochrome bcc:aa3 supercomplex.
ND-011992 has a low spontaneous resistance mutation frequency and is active against drug-resistant M. tuberculosis clinical isolates.
The combination ND-011992/Q203 is bactericidal against replicating and non-replicating M. tuberculosis H37Rv and shows potency in vivo.
ND-011992 acts on both, quinone reductases and quinol oxidases and could be very well suited to regulate the activity of the entire respiratory chain.

References

Lee BS, et al. ***EMBO Mol Med.*** 2021 Jan 11;13(1):e13207.

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