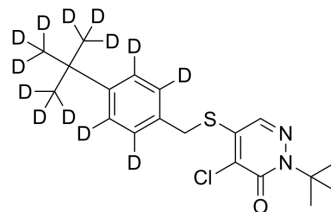


Pyridaben-d₁₃

Cat. No.:	HY-B0817S
CAS No.:	2468638-05-1
Molecular Formula:	C ₁₉ H ₁₂ D ₁₃ ClN ₂ OS
Molecular Weight:	378.01
Target:	Parasite
Pathway:	Anti-infection
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description	Pyridaben-d ₁₃ is the deuterium labeled Pyridaben[1]. Pyridaben is a mitochondrial electron transport inhibitor (METI) acaricide that promotes the formation of damaging oxygen and nitrogen radicals. Pyridaben selectively inhibits complex I (NADH dehydrogenase) with an IC ₅₀ value of 2.4 nM (assay sites: rat liver and bovine heart mitochondria). Pyridaben also significantly inhibits rat mitochondrial mtNOS function[2][3].
In Vitro	Stable heavy isotopes of hydrogen, carbon, and other elements have been incorporated into drug molecules, largely as tracers for quantitation during the drug development process. Deuteration has gained attention because of its potential to affect the pharmacokinetic and metabolic profiles of drugs ^[1] . MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

- [1]. Russak EM, et al. Impact of Deuterium Substitution on the Pharmacokinetics of Pharmaceuticals. *Ann Pharmacother*. 2019 Feb;53(2):211-216.
- [2]. Gomez C, et al. Pesticides and impairment of mitochondrial function in relation with the parkinsonian syndrome. *Front Biosci*. 2007 Jan 1;12:1079-93.
- [3]. Namin HH, et al. Resistance to pyridaben in Canadian greenhouse populations of two-spotted spider mites, *Tetranychus urticae* (Koch). *Pestic Biochem Physiol*. 2020 Nov;170:104677.

Caution: Product has not been fully validated for medical applications. For research use only.

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