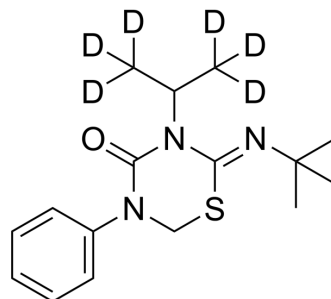


## Buprofezin-d<sub>6</sub>

<b>Cat. No.:</b>	HY-B0831S
<b>CAS No.:</b>	2140803-94-5
<b>Molecular Formula:</b>	C <sub>16</sub> H <sub>17</sub> D <sub>6</sub> N <sub>3</sub> OS
<b>Molecular Weight:</b>	311.48
<b>Target:</b>	Reactive Oxygen Species; Oxidative Phosphorylation
<b>Pathway:</b>	Immunology/Inflammation; Metabolic Enzyme/Protease; NF-κB
<b>Storage:</b>	Please store the product under the recommended conditions in the Certificate of Analysis.



### BIOLOGICAL ACTIVITY

<b>Description</b>	Buprofezin-d <sub>6</sub> is the deuterium labeled Buprofezin. Buprofezin is a broad-spectrum insecticide and chitin synthesis inhibitor that targets developmental stage coleopteran pests. Buprofezin promotes the conversion of energy metabolism from the aerobic tricarboxylic acid (TCA) cycle and oxidative phosphorylation to anaerobic glycolysis. Buprofezin also promotes the production of reactive oxygen species (ROS) by inhibiting cytochrome c oxidase[1][2].
<b>In Vitro</b>	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 <sup>[3]</sup> . MCE has not independently confirmed the accuracy of these methods. They are for reference only.

### REFERENCES

- [1]. Ji X, et al. Potential hepatic toxicity of buprofezin at sublethal concentrations: ROS-mediated conversion of energy metabolism. *J Hazard Mater.* 2016 Dec 15;320:176-186.
- [2]. Yoshiolzawa, et al. Inhibition of chitin biosynthesis by buprofezin analogs in relation to their activity controlling *Nilaparvata lugens* Stål. *Pestic Biochem Physiol*, 1985, 24(3): 343-347.
- [3]. Russak EM, et al. Impact of Deuterium Substitution on the Pharmacokinetics of Pharmaceuticals. *Ann Pharmacother.* 2019;53(2):211-223.

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

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