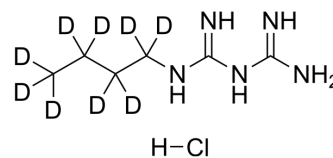


## Buformin-d<sub>9</sub> hydrochloride

<b>Cat. No.:</b>	HY-B2099S
<b>Molecular Formula:</b>	C <sub>6</sub> H <sub>7</sub> D <sub>9</sub> ClN <sub>5</sub>
<b>Molecular Weight:</b>	202.73
<b>Target:</b>	AMPK; Isotope-Labeled Compounds
<b>Pathway:</b>	Epigenetics; PI3K/Akt/mTOR; Others
<b>Storage:</b>	Please store the product under the recommended conditions in the Certificate of Analysis.



### BIOLOGICAL ACTIVITY

<b>Description</b>	Buformin-d <sub>9</sub> (hydrochloride) is the deuterium labeled Buformin. Buformin (1-Butylbiguanide), a potent AMPK activator, acts as an orally active biguanide antidiabetic agent. Buformin decreases hepatic gluconeogenesis and lowers blood glucose production in vivo. Buformin also has anti-cancer activities and is applied in cancer study (such as, cervical cancer and breast cancer, et al)[1].
<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>[1]</sup> . 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;53(2):211-216.
- [2]. Amanda B Parris, et al. Buformin Inhibits the Stemness of erbB-2-overexpressing Breast Cancer Cells and Premalignant Mammary Tissues of MMTV-erbB-2 Transgenic Mice. *J Exp Clin Cancer Res*
- [3]. Jing Li, et al. Buformin Suppresses Proliferation and Invasion via AMPK/S6 Pathway in Cervical Cancer and Synergizes With Paclitaxel. *Cancer Biol Ther.* 2018 Jun 3;19(6):507-517.

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

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