## Paclitaxel-d<sub>5</sub> (benzoyloxy)

Cat. No.:	HY-B0015S	1		
CAS No.:	1261254-56-1			
Molecular Formula:	$C_{47}H_{46}D_5NO_{14}$			
Molecular Weight:	858.94			
Target:	Microtubule/Tubulin; Apoptosis; ADC Cytotoxin; Autophagy			
Pathway:	Cell Cycle/DNA Damage; Cytoskeleton; Apoptosis; Antibody-drug Conjugate/ADC Related; Autophagy			
Storage:	Powder	-20°C 4°C	3 years 2 years	
	In solvent	-80°C -20°C	6 months 1 month	

BIOLOGICAL ACTIV					
Description	Paclitaxel-d <sub>5</sub> (benzoyloxy) is the deuterium labeled Paclitaxel. Paclitaxel is a naturally occurring antineoplastic agent and stabilizes tubulin polymerization. Paclitaxel can cause both mitotic arrest and apoptotic cell death. Paclitaxel also induces autophagy[1][2].				
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 <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]. Choi YH, et al. Paclitaxel-induced growth arrest and apoptosis is associated with the upregulation of the Cdk inhibitor, p21WAF1/CIP1, in human breast cancer cells. Oncol Rep. 2012 Dec;28(6):2163-9.

[3]. Dziadyk JM, et al. Paclitaxel-induced apoptosis may occur without a prior G2/M-phase arrest. Anticancer Res. 2004 Jan-Feb;24(1):27-36.

[4]. Li Q, et al. Low doses of paclitaxel enhance liver metastasis of breast cancer cells in the mouse model. FEBS J. 2016 Aug;283(15):2836-52.

[5]. Pan Z, et al. Paclitaxel attenuates Bcl-2 resistance to apoptosis in breast cancer cells through an endoplasmic reticulum-mediated calciumrelease in a dosage dependent manner. Biochem Biophys Res Commun. 2013 Feb 13. pii: S0006-291X(13)00259-3.

[6]. Cadamuro M, et al. Low dose paclitaxel reduces S100A4 nuclear import to inhibit invasion and hematogenous metastasis of cholangiocarcinoma. Cancer Res. 2016 Jun 21.

[7]. Li Q, et al. Low doses of paclitaxel enhance liver metastasis of breast cancer cells in the mouse model. FEBS J. 2016 Jun 16.

[8]. Yilmaz E, et al. Sensory neuron subpopulation-specific dysregulation of intracellular calcium in a rat model of chemotherapy-induced peripheral neuropathy. Neuroscience. 2015 Aug 6;300:210-8.

[9]. Jing C, et al. E7080 enhances the antitumor effects of paclitaxel in anaplastic thyroid cancer. Am J Cancer Res. 2017 Apr 1;7(4):903-912.

Product Data Sheet

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

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