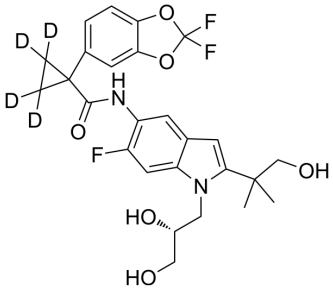
Tezacaftor-d_4

Cat. No.:	HY-15448S
CAS No.:	1961280-24-9
Molecular Formula:	$C_{26}H_{23}D_4F_3N_2O_6$
Molecular Weight:	524.52
Target:	CFTR; Autophagy
Pathway:	Membrane Transporter/Ion Channel; Autophagy
Storage:	Powder -20°C 3 years In solvent -80°C 6 months -20°C 1 month



BIOLOGICAL ACTIVITY

Description	Tezacaftor-d4 (VX-661-d4) is the deuterium-labeled Tezacaftor (HY-15448), a F508del CFTR corrector. Tezacaftor helps CFTR protein reach the cell surface[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[1]. However, Ivacaftor (VX-770, HY-13017), a CFTR potentiator, helps to prolong the opening time of cell surface CFTR protein channels. Tezacaftor combining with Ivacaftor, shows potent efficacy against cystic fibrosis and diseases with homozygous for the CFTR Phe508del mutation. Moreover, Elexacaftor (VX-445, HY-111772) is also a CFTR corrector. Elexacaftor-Tezacaftor-Ivacaftor aims at with cystic fibrosis (CF) with at least one Phe508del mutation, often avoids the indication for lung transplantation[3][4]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

[1]. Treatment with VX-661 and Ivacaftor in a Phase 2 Study Resulted in Statistically Significant Improvements in Lung Function in People with Cystic Fibrosis Who Have Two Copies of the F508del Mutation. April 18, 2013

[2]. Russak EM, et al. Impact of Deuterium Substitution on the Pharmacokinetics of Pharmaceuticals. Ann Pharmacother. 2019;53(2):211-216.

[3]. Taylor-Cousar JL, et al. Tezacaftor-Ivacaftor in Patients with Cystic Fibrosis Homozygous for Phe508del. N Engl J Med. 2017 Nov 23;377(21):2013-2023.

[4]. Burgel PR, et al. Rapid Improvement after Starting Elexacaftor-Tezacaftor-Ivacaftor in Patients with Cystic Fibrosis and Advanced Pulmonary Disease. Am J Respir Crit Care Med. 2021 Jul 1;204(1):64-73.

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