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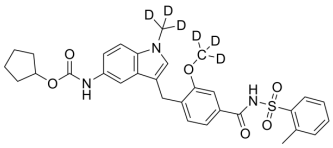
Zafirlukast-d_6

Cat. No.:	HY-17492S3
CAS No.:	1109278-84-3
Molecular Formula:	$C_{31}H_{27}D_6N_3O_6S$
Molecular Weight:	581.71
Target:	Leukotriene Receptor; Isotope-Labeled Compounds
Pathway:	GPCR/G Protein; Others
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description	Zafirlukast-d_6 is deuterated labeled Zafirlukast (HY-17492). Zafirlukast (ICI 204219) is a potent orally active leukotriene D_4 (LTD_4) receptor antagonist. Zafirlukast shows anti-asthmatic, anti-inflammatory and anti-bacterial effects.
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.
In Vivo	Zafirlukast is a peptidyl leukotriene antagonist and inhibitor of LTD_4. After 13 weeks of exposure, the yield of lung tumors is significantly decreased by both dose levels of Zafirlukast (270 and 540 mg/kg), the high dose of Zileuton (1200 mg/kg), and the combinations containing 600 mg/kg Zileuton with either Zafirlukast or MK-866. The efficacy of the combination containing Zileuton and Zafirlukast to prevent lung tumors is not significantly different from the efficacy of either inhibitor administered alone. Although when administered alone at the dose level in their combination, neither Zileuton or MK-886 prevents lung tumors; the combination containing them does significantly prevent tumors. In contrast, the combination containing Zafirlukast and MK-886 does not reduce the yield of tumors, whereas Zafirlukast administered alone does significantly reduce the yield of tumors[3]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

[1]. Lei C, et al. Zafirlukast attenuates advanced glycation end-products (AGEs)-induced degradation of articular extracellular matrix (ECM). Int Immunopharmacol. 2019;68:68-73.

[2]. Finnerty JP, et al. Role of leukotrienes in exercise-induced asthma. Inhibitory effect of ICI 204219, a potent leukotriene D_4 receptor antagonist. Am Rev Respir Dis. 1992 Apr;145(4 Pt 1):746-9.

[3]. Gunning WT, et al. Chemoprevention by lipoxygenase and leukotriene pathway inhibitors of vinyl carbamate-induced lung tumors in mice. Cancer Res. 2002 Aug 1;62(15):4199-201.

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

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

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