



SZABO SCANDIC

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Produktinformation



Forschungsprodukte & Biochemikalien



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Diagnostik & molekulare Diagnostik



Laborgeräte & Service

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Lieferung & Zahlungsart

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Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

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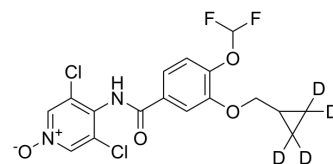
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Roflumilast-d₄ N-Oxide

Cat. No.:	HY-15455S1
CAS No.:	1794760-31-8
Molecular Formula:	C ₁₇ H ₁₀ D ₄ Cl ₂ F ₂ N ₂ O ₄
Molecular Weight:	423.23
Target:	Phosphodiesterase (PDE); RSV
Pathway:	Metabolic Enzyme/Protease; Anti-infection
Storage:	Powder -20°C 3 years 4°C 2 years In solvent -80°C 6 months -20°C 1 month



SOLVENT & SOLUBILITY

In Vitro

H₂O : 0.1 mg/mL (0.24 mM; Need ultrasonic)

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

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BIOLOGICAL ACTIVITY

Description

Roflumilast-d₄ N-Oxide is the deuterium labeled Roflumilast. Roflumilast is a selective PDE4 inhibitor with IC₅₀s of 0.7, 0.9, 0.7, and 0.2 nM for PDE4A1, PDE4A, PDEB1, and PDEB2, respectively, without affecting PDE1, PDE2, PDE3 or PDE5 isoenzymes from various cells[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].

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.
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- [3]. Hatzelmann A, et al. Anti-inflammatory and immunomodulatory potential of the novel PDE4 inhibitor roflumilast in vitro. *J Pharmacol Exp Ther*. 2001 Apr;297(1):267-79.
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- [5]. Rabe KF. Update on roflumilast, a phosphodiesterase 4 inhibitor for the treatment of chronic obstructive pulmonary disease. *Br J Pharmacol*. 2011 May;163(1):53-67.
- [6]. Richmond BW, et al. Airway bacteria drive a progressive COPD-like phenotype in mice with polymeric immunoglobulin receptor deficiency. *Nat Commun*. 2016 Apr 5;7:11240.