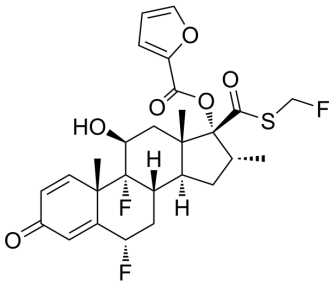
Fluticasone furoate

Cat. No.:	HY-15234
CAS No.:	397864-44-7
Molecular Formula:	$C_{27}H_{29}F_3O_6S$
Molecular Weight:	538.58
Target:	Glucocorticoid Receptor
Pathway:	Immunology/Inflammation; Vitamin D Related/Nuclear Receptor
Storage:	Powder -20°C 3 years 4°C 2 years In solvent -80°C 6 months -20°C 1 month



SOLVENT & SOLUBILITY

In Vitro

DMSO : 100 mg/mL (185.67 mM; Need ultrasonic)

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	1.8567 mL	9.2837 mL	18.5673 mL
5 mM	0.3713 mL	1.8567 mL	3.7135 mL
10 mM	0.1857 mL	0.9284 mL	1.8567 mL

Please refer to the solubility information to select the appropriate solvent.

In Vivo

1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.5 mg/mL (4.64 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (4.64 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Fluticasone furoate is a topical, intranasal, enhanced-affinity synthetic trifluorinated corticosteroid with a K_d of 0.3 nM. Fluticasone furoate has potent anti-inflamatory and anti-asthmatic activity, and low systemic exposure. Fluticasone furoate has the potential for allergic rhinitis treatment[1][2].

IC_{50} & Target

Kd: 0.3 nM (Corticosteroid)[1]

In Vitro

Fluticasone furoate comes in a nasal spray, as an aqueous suspension of micronized fluticasone furoate for topical administration to the nasal mucosa by means of a metering, atomizing spray pump[1].
Fluticasone furonate displays great potency in inhibiting tumor necrosis factor synthesis and action. Fluticasone furonate is also potent in preventing damage to cultured human lung epithelial cells by different stimulus[1].

	MCE has not independently confirmed the accuracy of these methods. They are for reference only.
In Vivo	Fluticasone furonate is 99.4% bound to plasma protein in vitro and other research indicated extensive first-pass metabolism of the absorbed drug. Protein binding is highly relevant because only the unbound free drug can exert an effect at the receptor site. Clearance of Fluticasone furonate is primarily by hydrolysis in the liver by the cytochrome P450 isozyme (CYP) 3A4 that converts the drug to the 17β-carboxylic acid metabolite (M10), which displays low glucocorticoid receptor agonist potency. Fluticasone furonate is excreted mainly in the feces, with only minor amounts in the urine[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

[1]. Giavina-Bianchi P, et al. Fluticasone furoate nasal spray in the treatment of allergic rhinitis. Ther Clin Risk Manag. 2008 Apr;4(2):465-72.

[2]. Alizadeh Z, et al. Asthma phenotypes and T-bet protein expression in cells treated with Fluticasone Furoate/Vilanterol. Pulm Pharmacol Ther. 2020 Feb;60:101886.

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