Fexofenadine hydrochloride

Cat. No.: HY-B0801A

CAS No.: 153439-40-8

Molecular Formula: $C_{32}H_{40}ClNO_4$

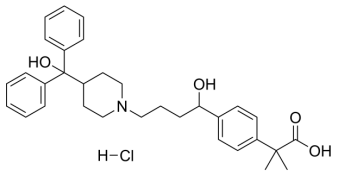
Molecular Weight: 538.12

Target: Histamine Receptor

Pathway: GPCR/G Protein; Immunology/Inflammation; Neuronal Signaling

Storage: 4°C, sealed storage, away from moisture

* In solvent : -80°C, 1 year; -20°C, 6 months (sealed storage, away from moisture)



SOLVENT & SOLUBILITY

In Vitro

DMSO : ≥ 100 mg/mL (185.83 mM)

H_2O : < 0.1 mg/mL (ultrasonic;warming;heat to 60°C) (insoluble)

* "≥" means soluble, but saturation unknown.

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	1.8583 mL	9.2916 mL	18.5832 mL
5 mM	0.3717 mL	1.8583 mL	3.7166 mL
10 mM	0.1858 mL	0.9292 mL	1.8583 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 (4.65 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.5 mg/mL (4.65 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (4.65 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Fexofenadine (MDL-16455) hydrochloride is an orally active and nonsedative H_1 receptor antagonist. Fexofenadine hydrochloride can be used in allergic rhinitis and chronic idiopathic urticarial research[1][2][3].

IC_{50} & Target

H_1 Receptor

In Vitro

Fexofenadine (1-100 μM; 1 h) inhibits the expression of IL-6 protein in nasal fibroblasts in a dose-dependent manner[2].

Fexofenadine (1-100 μM; 1 h) blocks phosphorylated p38 activation in histamine-induced nasal fibroblasts, but shows no

effect on either pERK or pJNK[2].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Western Blot Analysis[2]

Cell Line:	Nasal Fibroblasts
Concentration:	100 μM
Incubation Time:	1 hour
Result:	Blocked pp38 activation in histamine-induced nasal fibroblasts, showed histamine-induced IL-6 production mediated by the p38 pathway.

In Vivo

Fexofenadine hydrochloride (oral administration; 5-20 mg/kg; once daily; 3 w) suppresses both eosinophilia and systemic anaphylaxis in C57BL/6 mice infected with T. spiralis[1].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	C57BL/6 mice infected with Trichinella spiralis[1]
Dosage:	5, 10 and 20 mg/kg
Administration:	Oral administration; 5, 10 and 20 mg/kg; once daily; 3 weeks
Result:	Inhibited eosinophilia in a dose-dependent manner. Suppressed the decrease in rectal temperature ($p<0.01$), a marker for systemic anaphylaxis.

CUSTOMER VALIDATION

- Pharmacol Res. 2023 Mar 10;106724.
- Adv Mater Technol. 2023 Jan 29.
- Int Immunopharmacol. 2023 Feb 8;116:109637.

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REFERENCES

[1]. Watanabe N, et al. The effects of fexofenadine on eosinophilia and systemic anaphylaxis in mice infected with Trichinella spiralis. Int Immunopharmacol. 2004 Mar;4(3):367-75.

[2]. Park IH, et al. Histamine Promotes the Release of Interleukin-6 via the H1R/p38 and NF-κB Pathways in Nasal Fibroblasts. Allergy Asthma Immunol Res. 2014 Nov;6(6):567-72.

[3]. Ming X, et al. Vectorial transport of fexofenadine across Caco-2 cells: involvement of apical uptake and basolateral efflux transporters. Mol Pharm. 2011 Oct 3;8(5):1677-86.

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

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