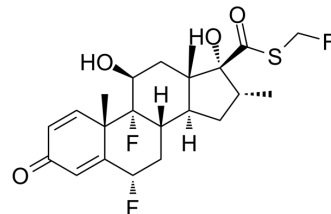


Fluticasone

Cat. No.:	HY-B0603
CAS No.:	90566-53-3
Molecular Formula:	C ₂₂ H ₂₇ F ₃ O ₄ S
Molecular Weight:	444.51
Target:	Smo; Glucocorticoid Receptor
Pathway:	Stem Cell/Wnt; Immunology/Inflammation
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description	Fluticasone is an inhaled corticosteroid used for respiratory research. Fluticasone is a Smo agonist with an IC ₅₀ value of 99 nM. Fluticasone activates Hedgehog signaling and promotes the proliferation of primary neuronal stem or precursor cells ^[1] [2].
In Vitro	Fluticasone (0-10 μM, 2 h) inhibits U2OS cells growth with an EC ₅₀ value of 99 nM ^[2] . Fluticasone (10-1000 nM, 48 h) decreases HRV-induced mucin production and involves in modulation of SPDEF-regulated genes and extracellular ATP release ^[3] . MCE has not independently confirmed the accuracy of these methods. They are for reference only.
In Vivo	Fluticasone (1 mg/kg; intranasal dropping; 7 d) suppresses rhinovirus-induced airways inflammation in vivo but also impairs anti-viral immune responses and increases viral titres, leading to mucus hypersecretion ^[4] . MCE has not independently confirmed the accuracy of these methods. They are for reference only.
Animal Model:	C57BL/6 mice ^[4]
Dosage:	1 mg/kg
Administration:	Intranasal dropping; 1 h before infection with rhinovirus 1B; 7 days
Result:	Suppressed BAL neutrophil numbers and inhibited rhinovirus-induced airway inflammation.

REFERENCES

- [1]. Seidel P, et al. Thiazolidinediones inhibit airway smooth muscle release of the chemokine CXCL10: in vitro comparison with current asthma therapies. *Respir Res.* 2012 Oct 4. 13(1):90.
- [2]. Wang J, et al. Identification of select glucocorticoids as Smoothened agonists: potential utility for regenerative medicine. *Proc Natl Acad Sci U S A.* 2010 May 18. 107(20):9323-8.
- [3]. Ying Wang, et al. Tiotropium and Fluticasone Inhibit Rhinovirus-Induced Mucin Production via Multiple Mechanisms in Differentiated Airway Epithelial Cells. *Front. Cell. Infect. Microbiol.*, 2020 Jun.

[4]. Singanayagam A, et al. Effect of fluticasone propionate on virus-induced airways inflammation and anti-viral immune responses in mice. Lancet. 2015 Feb 26. 385(Suppl 1):S88.

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

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