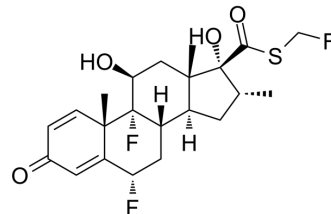


## Fluticasone

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



### BIOLOGICAL ACTIVITY

<b>Description</b>	Fluticasone is an inhaled corticosteroid used for respiratory research. Fluticasone is a Smo agonist with an IC <sub>50</sub> value of 99 nM. Fluticasone activates Hedgehog signaling and promotes the proliferation of primary neuronal stem or precursor cells <sup>[1]</sup> [2].
<b>In Vitro</b>	Fluticasone (0-10 μM, 2 h) inhibits U2OS cells growth with an EC <sub>50</sub> value of 99 nM <sup>[2]</sup> . Fluticasone (10-1000 nM, 48 h) decreases HRV-induced mucin production and involves in modulation of SPDEF-regulated genes and extracellular ATP release <sup>[3]</sup> . MCE has not independently confirmed the accuracy of these methods. They are for reference only.
<b>In Vivo</b>	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 <sup>[4]</sup> . MCE has not independently confirmed the accuracy of these methods. They are for reference only.
<b>Animal Model:</b>	C57BL/6 mice <sup>[4]</sup>
<b>Dosage:</b>	1 mg/kg
<b>Administration:</b>	Intranasal dropping; 1 h before infection with rhinovirus 1B; 7 days
<b>Result:</b>	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.

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[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.

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

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