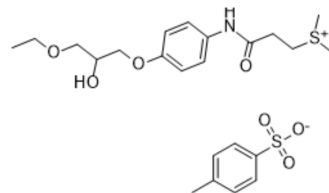


Suplatast (Tosilate)

Cat. No.:	HY-17002
CAS No.:	94055-76-2
Molecular Formula:	C ₂₃ H ₃₃ NO ₇ S ₂
Molecular Weight:	499.64
Target:	Interleukin Related
Pathway:	Immunology/Inflammation
Storage:	4°C, sealed storage, away from moisture * In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture)



SOLVENT & SOLUBILITY

In Vitro

H₂O : ≥ 100 mg/mL (200.14 mM)
 DMSO : ≥ 33 mg/mL (66.05 mM)
 * "≥" means soluble, but saturation unknown.

Preparing Stock Solutions	Solvent Concentration	Mass		
		1 mg	5 mg	10 mg
	1 mM	2.0014 mL	10.0072 mL	20.0144 mL
	5 mM	0.4003 mL	2.0014 mL	4.0029 mL
	10 mM	0.2001 mL	1.0007 mL	2.0014 mL

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

In Vivo

- Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
Solubility: ≥ 2.5 mg/mL (5.00 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
Solubility: ≥ 2.5 mg/mL (5.00 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% corn oil
Solubility: ≥ 2.5 mg/mL (5.00 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Suplatast Tosilate (IPD 1151T) is an orally active Th2 cytokine inhibitor which can inhibit both IL-4 and IL-5 production from Th2 cells and suppress IgE synthesis. Suplatast Tosilate is an anti-allergic agent. Suplatast Tosilate has antiasthmatic, anti-inflammatory and antifibrotic activity^{[1][2][3][4]}.

IC₅₀ & Target

IL-4	IL-2	IL-5	IL-13
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In Vitro

IPD-1151T (1-10 μM; 10 d) induces a concentration-dependent suppression of purified allergen (Cry j 1)-dependent IgE

synthesis in autologous B cell cultures mediated by SN-4, without significantly affecting the IgG synthesis^[1]. IPD-1151T (1-10 μ M; 24 h) clearly depresses phytohemagglutinin (PHA)-induced expression of IL-4 mRNA in normal peripheral blood mononuclear cells (PBMC)^[1].

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

In Vivo

Suplatast Tosilate (100 mg/kg; once daily for 21 d) inhibits the production of Th2 cytokines, which inhibits eosinophil infiltration into the murine airway, IgE synthesis, and development of BHR, in a murine model of asthma^[2].

Suplatast Tosilate (100 μ g/kg; once daily for 14 d) strongly suppresses immunoglobulin E contents in serum^[3].

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

Animal Model:	Female BALB/c mice (6-8 weeks old) are immunized with ovalbumin ^[3]
Dosage:	100 mg/kg
Administration:	P.o. once a day for 21 days
Result:	Reduced the number of total cells and eosinophils. Almost completely inhibited the development of antigen-induced bronchial hyperresponsiveness (BHR). Decreased the levels of IL-4, IL-5 and IL-13.

CUSTOMER VALIDATION

- bioRxiv. 2020 Jun.

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REFERENCES

[1]. Furonaka M, Hattori N, Tanimoto T, Senoo T, Ishikawa N, Fujitaka K, Haruta Y, Yokoyama A, Kohno N. Suplatast tosilate prevents bleomycin-induced pulmonary fibrosis in mice. *J Pharmacol Exp Ther*. 2009 Jan;328(1):55-61.

[2]. Yanagihara Y, et, al. Suppression of IgE production by IPD-1151T (suplatast tosilate), a new dimethylsulfonium agent: (2). Regulation of human IgE response. *Jpn J Pharmacol*. 1993 Jan;61(1):31-9.

[3]. Zhao GD, et, al. Effect of suplatast tosilate (IPD-1151T) on a mouse model of asthma: inhibition of eosinophilic inflammation and bronchial hyperresponsiveness. *Int Arch Allergy Immunol*. 2000 Feb;121(2):116-22.

[4]. Kurokawa M, et, al. Suppressive effects of anti-allergic agent suplatast tosilate (IPD-1151T) on the expression of co-stimulatory molecules on mouse splenocytes in vivo. *Mediators Inflamm*. 2001 Dec;10(6):333-7.

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

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