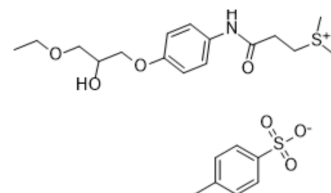


## Suplatast (Tosilate)

Cat. No.:	HY-17002
CAS No.:	94055-76-2
Molecular Formula:	C <sub>23</sub> H <sub>33</sub> NO <sub>7</sub> S <sub>2</sub>
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

H<sub>2</sub>O : ≥ 100 mg/mL (200.14 mM)

DMSO : ≥ 33 mg/mL (66.05 mM)

\* "≥" means soluble, but saturation unknown.

Preparing Stock Solutions	<div>Solvent</div>	Mass	1 mg	5 mg	10 mg
	Concentration				
	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

1. 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

2. 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

3. 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 <sup>[1][2][3][4]</sup> .			
IC <sub>50</sub> & Target	IL-4	IL-2	IL-5	IL-13
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<sup>[1]</sup>. IPD-1151T (1-10  $\mu$ M; 24 h) clearly depresses phytohemagglutinin (PHA)-induced expression of IL-4 mRNA in normal peripheral blood mononuclear cells (PBMC)<sup>[1]</sup>.

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<sup>[2]</sup>.

Suplatast Tosilate (100  $\mu$ g/kg; once daily for 14 d) strongly suppresses immunoglobulin E contents in serum<sup>[3]</sup>.

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 <sup>[3]</sup>
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.

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

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