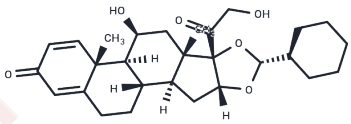
Data Sheet (Cat.No.T13646)

TargetMol

Desisobutyryl-ciclesonide

Chemical Properties



CAS No. : 161115-59-9

Formula: C28H38O6

Molecular Weight: 470.6

Storage: Store at low temperature
Powder: -20°C for 3 years | In solvent: -80°C for 1 year
Actual storage temperature shall be subject to the COA.

Biological Description

Description	Desisobutyryl-ciclesonide (CIC-AP) is the active metabolite of Ciclesonide with affinity for the glucocorticoid receptor.Ciclesonide is a glucocorticoid with anti-inflammatory activity.
Targets(IC50)	Glucocorticoid Receptor,Drug Metabolite
In vitro	Desisobutyryl-ciclesonide showed approximately 120-fold higher binding affinity for the glucocorticoid receptor compared to ciclesonide, and about 12-fold higher than dexamethasone. [1] In Peripheral blood mononuclear cells from atopic asthmatic children sensitized to Phleum pratense (PhlP5), Desisobutyryl-ciclesonide at as low as 0.003 μM already reduced PhlP5-specific proliferation, with complete inhibition at 0.03 μM (vs. 3 μM for ciclesonide). In cultures stimulated with PhlP5, 3 μM Desisobutyryl-ciclesonide significantly reduced the proliferation of PhlP5-specific T-cell blasts and decreased the proportion of interleukin-4 (IL-4) producing cells, indicating suppression of Th2 inflammatory response. [2]
In vivo	In a bleomycin-induced bronchopulmonary dysplasia (BPD) neonatal rat model, systemic administration of Desisobutyryl-ciclesonide significantly reduced inflammation with less impact on weight gain, serum IGF-1, and glucose levels compared to dexamethasone, suggesting a safer profile for developmental outcomes. [3]

Solubility Information

Solubility	DMSO: 80 mg/mL (170 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+40% PEG300+5% Tween 80+45% Saline: 3.3 mg/mL (7.01 mM),Sonication is recommended. *Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one. Dissolve by heating and/or sonication if necessary. Working solution is recommended to be prepared and used immediately. The formulation provided above is for reference purposes only. In vivo formulations may vary and should be modified based on specific experimental conditions.*

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.1249 mL	10.6247 mL	21.2495 mL
5 mM	0.425 mL	2.1249 mL	4.2499 mL
10 mM	0.2125 mL	1.0625 mL	2.1249 mL
50 mM	0.0425 mL	0.2125 mL	0.425 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Reference

Kaliner, M. A. (2010). Ciclesonide: a new inhaled corticosteroid with improved pharmacologic characteristics. Annals of Allergy, Asthma & Immunology, 98(2), S23-S30.

Silvestri M, Morandi F, Pistoia V, Prigione I, Rossi GA. Ciclesonide modulates in vitro allergen-driven activation of blood mononuclear cells and allergen-specific T-cell blasts. Immunol Lett. 2012 Jan 30;141(2):190-6.
Sato, Hideyuki et al. (2007). Uptake and metabolism of ciclesonide and retention of Desisobutyryl-ciclesonide for up to 24 hours in rabbit nasal mucosa. BMC Pharmacology. 7. 7. 10.1186/1471-2210-7-7.