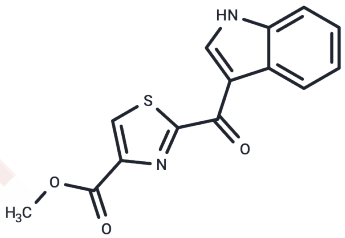
Data Sheet (Cat.No.T7202)

TargetMol

ITE

Chemical Properties



CAS No. : 448906-42-1

Formula: C14H10N2O3S

Molecular Weight: 286.31

Storage: 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	ITE is a potent endogenous agonist of the aryl hydrocarbon receptor (AhR) (Ki: 3 nM) with immunosuppressive activity.
Targets(IC50)	AhR,Aryl Hydrocarbon Receptor
In vitro	ITE dose- and time-dependently inhibited proliferation of HPAECs with a maximum inhibition of 83% at 20 μM after 6 days of treatment. ITE rapidly decreased AhR protein levels, while it increased mRNA levels of cytochrome P450 (CYP), family 1, member A1 (CYP1A1) and B1 (CYP1B1), indicating activation of the AhR/CYP1A1 and AhR/CYP1B1 pathways in HPAECs. The AhR siRNA significantly suppressed AhR protein expression, whereas it did not significantly alter ITE-inhibited growth of HPAECs[1].
In vivo	ITE diminishes colitis pathology through induction of Tregs; reduces inflammatory cytokines, inflammation score, and macrophage frequency; and induces DCs resulting in amelioration of colitis. Therefore, nontoxic endogenous ITE promotes the induction of Tregs and may be useful for the treatment of IBD[2].
Cell Research	Immunohistochemistry was performed to localize AhR expression in human lung tissues. The crystal violet method and MTT assay were used to determine ITE's effects on growth of HPAECs. The AhR activation in HPAECs was confirmed using Western blotting and RT-qPCR. The role of AhR in ITE-affected proliferation of HPAECs was assessed using siRNA knockdown method followed by the crystal violet method[1]
Animal Research	At the start of DSS induction, mice received 100 μl by intraperitoneal injection of vehicle and ITE (10 mg/kg body wt) twice a week on each Monday and Thursday until week 6 at the end point of the experiment. During a pilot study, we used several (5, 10, 20, 40, and 80 mg/kg body wt) doses of ITE and noticed that the 10-mg/kg dose was the lowest dose giving maximum protection. Therefore, Used this dose in entire study. At the experimental end point blood was collected by tail-vein bleedings and serum was obtained following centrifugation. For comparison, a similar treatment was also given to normal BL/6 mice to see the effect of ITE alone[2].

Solubility Information

Solubility	DMSO: 62.5 mg/mL (218.29 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	3.4927 mL	17.4636 mL	34.9272 mL
5 mM	0.6985 mL	3.4927 mL	6.9854 mL
10 mM	0.3493 mL	1.7464 mL	3.4927 mL
50 mM	0.0699 mL	0.3493 mL	0.6985 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

Pang L P , Li Y , Zou Q Y , et al. ITE inhibits growth of human pulmonary artery endothelial cells[J]. Experimental Lung Research, 2017, 43(8):283-292.

Abron J D , Singh N P , Mishra M K , et al. An endogenous aryl hydrocarbon receptor (AhR) ligand, ITE induces regulatory T cells (Tregs) and ameliorates experimental colitis[J]. American Journal of Physiology-Gastrointestinal and Liver Physiology, 2018:ajpgi.00413.2017-.

Tel:781-999-4286 E_mail:info@targetmol.com Address:34 Washington Street,Wellesley Hills,MA 02481