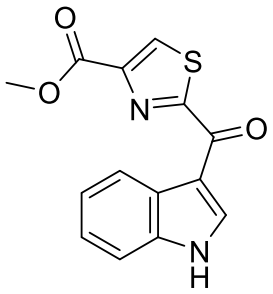
Product data sheet

MedKoo Cat#: 462465 Name: ITE CAS: 448906-42-1 Chemical Formula: $C_{14}H_{10}N_2O_3S$ Exact Mass: 286.0412 Molecular Weight: 286.305	
Product supplied as:	Powder
Purity (by HPLC):	≥ 98%
Shipping conditions	Ambient temperature
Storage conditions:	Powder: -20°C 3 years; 4°C 2 years.
	In solvent: -80°C 3 months; -20°C 2 weeks.

1. Product description:
ITE is an endogenous aryl hydrocarbon receptor (AhR) agonist.

2. CoA, QC data, SDS, and handling instruction
SDS and handling instruction, CoA with copies of QC data (NMR, HPLC and MS analytical spectra) can be downloaded from the product web page under "QC And Documents" section. Note: copies of analytical spectra may not be available if the product is being supplied by MedKoo partners. Whether the product was made by MedKoo or provided by its partners, the quality is 100% guaranteed.

3. Solubility data

Solvent	Max Conc. mg/mL	Max Conc. mM
DMF	20.0	69.86
DMF:PBS (pH 7.2) (1:6)	0.14	0.49
DMSO	34.16	119.30
Ethanol	2.0	6.99

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	**1 mg**	**5 mg**	**10 mg**
1 mM	3.49 mL	17.46 mL	34.93 mL
5 mM	0.70 mL	3.49 mL	6.99 mL
10 mM	0.35 mL	1.75 mL	3.49 mL
50 mM	0.07 mL	0.35 mL	0.70 mL

5. Molarity Calculator, Reconstitution Calculator, Dilution Calculator
Please refer the product web page under section of "Calculator"

6. Recommended literature which reported protocols for in vitro and in vivo study
In vitro study

1. Piwarski SA, Thompson C, Chaudhry AR, Denvir J, Primerano DA, Fan J, Salisbury TB. The putative endogenous AHR ligand ITE reduces JAG1 and associated NOTCH1 signaling in triple negative breast cancer cells. Biochem Pharmacol. 2020 Apr;174:113845. doi: 10.1016/j.bcp.2020.113845. Epub 2020 Feb 4. PMID: 32032581; PMCID: PMC7418053.
2. Pang LP, Li Y, Zou QY, Zhou C, Lei W, Zheng J, Huang SA. ITE inhibits growth of human pulmonary artery endothelial cells. Exp Lung Res. 2017 Oct;43(8):283-292. doi: 10.1080/01902148.2017.1367868. PMID: 29140133; PMCID: PMC5909382.

In vivo study

1. Seong E, Lee JH, Lim S, Park EH, Kim E, Kim CW, Lee E, Oh GC, Choo EH, Hwang BH, Kim CJ, Ihm SH, Youn HJ, Chung WS, Chang K. Activation of Aryl Hydrocarbon Receptor by ITE Improves Cardiac Function in Mice After Myocardial Infarction. J Am Heart Assoc. 2021 Jul 6;10(13):e020502. doi: 10.1161/JAHA.120.020502. Epub 2021 Jun 23. PMID: 34157850; PMCID: PMC8403290.
2. Abron JD, Singh NP, Mishra MK, Price RL, Nagarkatti M, Nagarkatti PS, Singh UP. An endogenous aryl hydrocarbon receptor ligand, ITE, induces regulatory T cells and ameliorates experimental colitis. Am J Physiol Gastrointest Liver Physiol. 2018 Aug 1;315(2):G220-G230. doi: 10.1152/ajpgi.00413.2017. Epub 2018 Apr 19. PMID: 29672155; PMCID: PMC6139639.

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7. Bioactivity

Biological target:

ITE is a potent endogenous agonist of aryl hydrocarbon receptor (AhR), binding directly to AHR, with a Ki of 3 nM. ITE also has immunosuppressive activity.

In vitro activity

While NICD1 was barely detectable in MCF7 and MDA-MB-436, ITE significantly reduced NICD1 protein levels in MDA-MB-231 and MDA-MB-157 cells (Fig. 3B). Thus, these data indicate for the first time that in TNBC cells, ITE reduces JAG1 expression and NICD1 signaling.

Reference: J Am Heart Assoc. 2021 Jul 6;10(13):e020502. https://pubmed.ncbi.nlm.nih.gov/32032581/

In vivo activity

An increased number of Tregs in the infarcted myocardium was observed in ITE-treated mice compared with control mice at 5 days after MI (Figure 2D). Collectively, the results show that ITE treatment increases the $Foxp3^+$ Treg populations in the lymph nodes, spleen, and infarcted myocardium.

Reference: J Am Heart Assoc. 2021 Jul 6;10(13):e020502. https://pubmed.ncbi.nlm.nih.gov/34157850/

Note: The information listed here was extracted from literature. MedKoo has not independently retested and confirmed the accuracy of these methods. Customer should use it just for a reference only.