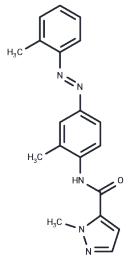
Data Sheet (Cat.No.T2448)

TargetMol

CH-223191

Chemical Properties



CAS No. : 301326-22-7

Formula: C19H19N5O

Molecular Weight: 333.39

Storage: Powder: -20°C for 3 years
Actual storage temperature shall be subject to the COA.

Biological Description

Description	CH-223191 is a specific and effective aromatic hydrocarbon receptor (AhR) antagonist, and its IC50 value for inhibiting luciferase activity induced by TCDD is 0.03 μM. CH-223191 can be used in tumor immunotherapy, cytotoxicity research, stem cell research, inflammation research and neuroprotection.
Targets(IC50)	AhR,Aryl Hydrocarbon Receptor
In vitro	**METHODS**: HepG2 cells were treated with CH-223191 (0.1-10 μM) for 1 hour, and the protein levels were detected by Western Blot method. **RESULTS**: C-223191 reduces the expression of cytochrome P450 1A1 protein caused by TCDD. [1]
In vivo	**METHODS**: To study the preventive toxic effects of CH-223191 on 2,3,7,8-TCDD, CH-223191 (10 mg/kg) was intraperitoneally injected into male ICR mice once a day for 25 consecutive days. **RESULTS**: C-223191 inhibited the expression of liver cytochrome P450 1A1 and the intracellular fat content in hepatocytes, and reduced the AST and ALT activities in mice treated with TCDD. [1]

Solubility Information

Solubility	Ethanol: 3.3 mg/mL (9.9 mM),Sonication is recommended. DMSO: 127 mg/mL (380.94 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: 1 mg/mL (3 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	2.9995 mL	14.9975 mL	29.9949 mL
5 mM	0.5999 mL	2.9995 mL	5.999 mL
10 mM	0.2999 mL	1.4997 mL	2.9995 mL
50 mM	0.060 mL	0.2999 mL	0.5999 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

Kim SH, et al. Novel compound 2-methyl-2H-pyrazole-3-carboxylic acid (2-methyl-4-o-tolylazo-phenyl)-amide (CH-223191) prevents 2,3,7,8-TCDD-induced toxicity by antagonizing the aryl hydrocarbon receptor. Mol Pharmacol. 2006 Jun;69(6):1871-8.
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Zhang F L, Chen X W, Wang Y F, et al.Microbiota-derived tryptophan metabolites indole-3-lactic acid is associated with intestinal ischemia/reperfusion injury via positive regulation of YAP and Nrf2.Journal of Translational Medicine.2023, 21(1): 264.
Gramatzki D, et al. Oncogene. 2009, 28(28), 2593-2605.
Xie HQ, et al. Environ Health Perspect. 2013, 121(5), 613-618.
de Souza AR, et al. Toxicol Sci. 2014, 140(1), 204-223.
Wang K, Lv Q, Miao Y, et al. Cardamonin, a natural flavone, alleviates inflammatory bowel disease by the inhibition of NLRP3 inflammasome activation via an AhR/Nrf2/NQO1 pathway[J]. Biochemical pharmacology. 2018 Sep;155:494-509.