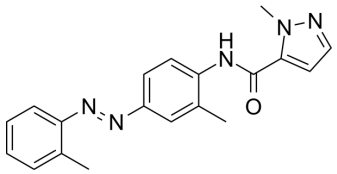
CH-223191

Cat. No.:	HY-12684
CAS No.:	301326-22-7
Molecular Formula:	$C_{19}H_{19}N_5O$
Molecular Weight:	333.39
Target:	Aryl Hydrocarbon Receptor
Pathway:	Immunology/Inflammation
Storage:	Powder -20°C 3 years 4°C 2 years * The compound is unstable in solutions, freshly prepared is recommended.



SOLVENT & SOLUBILITY

In Vitro

DMSO : 100 mg/mL (299.95 mM; ultrasonic and warming and heat to 60°C)

Preparing Stock Solutions	Mass / Solvent / Concentration	1 mg	5 mg	10 mg
	1 mM	2.9995 mL	14.9974 mL	29.9949 mL
	5 mM	0.5999 mL	2.9995 mL	5.9990 mL
	10 mM	0.2999 mL	1.4997 mL	2.9995 mL

Please refer to the solubility information to select the appropriate solvent.

In Vivo

1. Add each solvent one by one: 50% PEG300 >> 50% saline
   Solubility: 20 mg/mL (59.99 mM); Suspended solution; Need ultrasonic
2. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 0.33 mg/mL (0.99 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

CH-223191 is a potent and specific antagonist of aryl hydrocarbon receptor (AhR).CH-223191 inhibits TCDD-mediated nuclear translocation and DNA binding of AhR, and inhibits TCDD-induced luciferase activity with an IC_{50} of 0.03 μM[1].

In Vitro

CH-223191 (0.1-10 μM; pre-treated 1 hour) inhibits TCDD-caused cytochrome P450 1A1 mRNA expression in a in dose-dependent manner[1].

CH-223191 (0.1-10 μM; pre-treated 1 hour) causes a concentration-dependent inhibition of TCDD-induced cytochrome P450 enzyme activity[1].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

RT-PCR[1]

Cell Line:	HepG2 cells
Concentration:	0.1-10 μM
Incubation Time:	1 hour
Result:	Caused inhibition of TCDD-induced cytochrome P450 mRNA expression.

Western Blot Analysis[1]

Cell Line:	HepG2 cells
Concentration:	0.1-10 μM
Incubation Time:	1 hour
Result:	Decreased TCDD-caused cytochrome P450 1A1 protein Treatment.

In Vivo

CH-223191 (10 mg/kg; once a day; 25 days) suppresses cytochrome P450 1A1 expression and the intrahepatocyte fat content in liver, reduces activity of AST and ALT in TCDD-treated mice[1].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	Male ICR mice (6 weeks old)[1]
Dosage:	10 mg/kg
Administration:	10 mg/kg; once a day; 25 days
Result:	Prevented TCDD-elicited cytochrome P450 induction, liver toxicity, and wasting syndrome in mice.

CUSTOMER VALIDATION

- Cell Metab. 2024 Jan 17:S1550-4131(23)00477-1.
- Nat Microbiol. 2023 May;8(5):919-933.
- Gut. 2023 Sep 28:gutjnl-2023-329543.
- Nat Metab. 2023 Feb 13.
- Nat Commun. 2024 Feb 13;15(1):1333.

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REFERENCES

[1]. 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. Epub 2006 Mar 15.

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

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