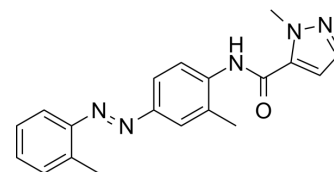


## CH-223191

Cat. No.:	HY-12684
CAS No.:	301326-22-7
Molecular Formula:	C <sub>19</sub> H <sub>19</sub> N <sub>5</sub> O
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)				
		Solvent Concentration	Mass 1 mg	5 mg	10 mg
	Preparing Stock Solutions	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	<ol style="list-style-type: none"> <li>Add each solvent one by one: 50% PEG300 &gt;&gt; 50% saline Solubility: 20 mg/mL (59.99 mM); Suspended solution; Need ultrasonic</li> <li>Add each solvent one by one: 10% DMSO &gt;&gt; 40% PEG300 &gt;&gt; 5% Tween-80 &gt;&gt; 45% saline Solubility: ≥ 0.33 mg/mL (0.99 mM); Clear solution</li> </ol>				

### 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 <sub>50</sub> of 0.03 μM <sup>[1]</sup> .
In Vitro	<p>CH-223191 (0.1-10 μM; pre-treated 1 hour) inhibits TCDD-caused cytochrome P450 1A1 mRNA expression in a in dose-dependent manner<sup>[1]</sup>.</p> <p>CH-223191 (0.1-10 μM; pre-treated 1 hour) causes a concentration-dependent inhibition of TCDD-induced cytochrome P450 enzyme activity<sup>[1]</sup>.</p> <p>MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p> <p>RT-PCR<sup>[1]</sup></p>

	<table border="1"> <tr> <td>Cell Line:</td> <td>HepG2 cells</td> </tr> <tr> <td>Concentration:</td> <td>0.1-10 <math>\mu</math>M</td> </tr> <tr> <td>Incubation Time:</td> <td>1 hour</td> </tr> <tr> <td>Result:</td> <td>Caused inhibition of TCDD-induced cytochrome P450 mRNA expression.</td> </tr> </table> <p>Western Blot Analysis<sup>[1]</sup></p> <table border="1"> <tr> <td>Cell Line:</td> <td>HepG2 cells</td> </tr> <tr> <td>Concentration:</td> <td>0.1-10 <math>\mu</math>M</td> </tr> <tr> <td>Incubation Time:</td> <td>1 hour</td> </tr> <tr> <td>Result:</td> <td>Decreased TCDD-caused cytochrome P450 1A1 protein Treatment.</td> </tr> </table>	Cell Line:	HepG2 cells	Concentration:	0.1-10 $\mu$ M	Incubation Time:	1 hour	Result:	Caused inhibition of TCDD-induced cytochrome P450 mRNA expression.	Cell Line:	HepG2 cells	Concentration:	0.1-10 $\mu$ M	Incubation Time:	1 hour	Result:	Decreased TCDD-caused cytochrome P450 1A1 protein Treatment.
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<b>In Vivo</b>	<p>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<sup>[1]</sup>. MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p> <table border="1"> <tr> <td>Animal Model:</td> <td>Male ICR mice (6 weeks old)<sup>[1]</sup></td> </tr> <tr> <td>Dosage:</td> <td>10 mg/kg</td> </tr> <tr> <td>Administration:</td> <td>10 mg/kg; once a day; 25 days</td> </tr> <tr> <td>Result:</td> <td>Prevented TCDD-elicited cytochrome P450 induction, liver toxicity, and wasting syndrome in mice.</td> </tr> </table>	Animal Model:	Male ICR mice (6 weeks old) <sup>[1]</sup>	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.								
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## 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.

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

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