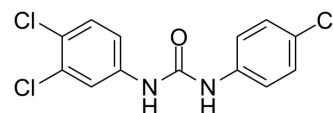


Triclocarban

Cat. No.:	HY-B1805
CAS No.:	101-20-2
Molecular Formula:	C ₁₃ H ₉ Cl ₃ N ₂ O
Molecular Weight:	315.58
Target:	Bacterial
Pathway:	Anti-infection
Storage:	Powder -20°C 3 years 4°C 2 years In solvent -80°C 2 years -20°C 1 year



SOLVENT & SOLUBILITY

In Vitro	DMSO : 100 mg/mL (316.88 mM; Need ultrasonic)				
	Preparing Stock Solutions	<div><div>Solvent</div><div>Concentration</div></div> <div>Mass</div>	1 mg	5 mg	10 mg
		1 mM	3.1688 mL	15.8438 mL	31.6877 mL
		5 mM	0.6338 mL	3.1688 mL	6.3375 mL
		10 mM	0.3169 mL	1.5844 mL	3.1688 mL
Please refer to the solubility information to select the appropriate solvent.					
In Vivo	1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline Solubility: 2.5 mg/mL (7.92 mM); Suspended solution; Need ultrasonic				
	2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline) Solubility: 2.5 mg/mL (7.92 mM); Suspended solution; Need ultrasonic				
	3. Add each solvent one by one: 10% DMSO >> 90% corn oil Solubility: ≥ 2.5 mg/mL (7.92 mM); Clear solution				

BIOLOGICAL ACTIVITY

Description	Triclocarban (3,4,4'-Trichlorocarbanilide), a broad spectrum antibacterial compound, is widely used in a broad range of applications such as the production of soaps, skin creams, toothpastes and deodorants. Triclocarban is a potential endocrine-disrupting chemical with the capacity to modulate androgen and estrogen activities as well as other hormone-mediated biological processes ^{[1][2][3]} .
IC ₅₀ & Target	Bacterial ^[1]

In Vitro	<p>Triclocarban (300 nM) potentiates the cytotoxicity of 300 μM H₂O₂ in rat thymocytes. Triclocarban (300 nM) does not increase the population of death cells, it facilitates the process of cell death induced by H₂O₂, resulting in further increase in the population of dead cells^[1]. Triclocarban exerts estrogenic activities by inducing luciferase activities in an ER reporter gene assay, promoting the proliferation of the MCF-7 cells, up-regulating the expression of pS2 and down-regulating ERα expression at both the mRNA and protein levels in the MCF-7 cells^[2].</p> <p>MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p>
In Vivo	<p>Triclocarban is absorbed significantly from soap used during showering in human subjects and that its C_{max} in their whole blood ranges from 23 nM to 530 nM^[1]. Gestational triclocarban exposure does not affect the ability of dams to carry offspring to term but triclocarban exposure during lactation has adverse consequences on the survival of offspring^[3].</p> <p>MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p>

PROTOCOL

Animal Administration ^[3]

Rats: Sprague Dawley rats are provided control, 0.2% weight/weight (w/w), or 0.5% w/w triclocarban -supplemented chow through a series of 3 experiments that limited exposure to critical growth periods: gestation, gestation and lactation, or lactation only (cross-fostering) to determine the susceptible windows of exposure for developmental consequences^[3]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

CUSTOMER VALIDATION

- Fish Shellfish Immunol. 2022 Aug 31;S1050-4648(22)00535-6.
- Comp Biochem Physiol C Toxicol Pharmacol. 2023 Sep 4;109734.

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REFERENCES

- [1]. Kanbara Y, et al. Nanomolar concentration of triclocarban increases the vulnerability of rat thymocytes to oxidative stress. J Toxicol Sci. 2013 Feb;38(1):49-55.
- [2]. Huang H, et al. The in vitro estrogenic activities of triclosan and triclocarban. J Appl Toxicol. 2014 Sep;34(9):1060-7.
- [3]. Kennedy RC, et al. Early life triclocarban exposure during lactation affects neonate rat survival. Reprod Sci. 2015 Jan;22(1):75-89.

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

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