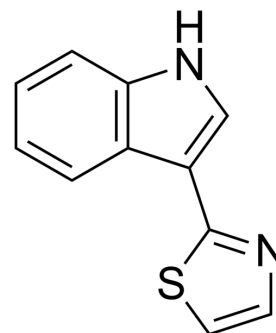


Camalexin

Cat. No.:	HY-119502		
CAS No.:	135531-86-1		
Molecular Formula:	C ₁₁ H ₈ N ₂ S		
Molecular Weight:	200.26		
Target:	Reactive Oxygen Species; Fungal; Bacterial		
Pathway:	Immunology/Inflammation; Metabolic Enzyme/Protease; NF-κB; Anti-infection		
Storage:	Powder	-20°C	3 years
		4°C	2 years
	In solvent	-80°C	6 months
		-20°C	1 month



SOLVENT & SOLUBILITY

In Vitro	DMSO : 125 mg/mL (624.19 mM; Need ultrasonic)				
		Solvent Concentration	Mass 1 mg	5 mg	10 mg
	Preparing Stock Solutions	1 mM	4.9935 mL	24.9675 mL	49.9351 mL
		5 mM	0.9987 mL	4.9935 mL	9.9870 mL
10 mM		0.4994 mL	2.4968 mL	4.9935 mL	
Please refer to the solubility information to select the appropriate solvent.					
In Vivo	<ol style="list-style-type: none"> Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline Solubility: ≥ 2.08 mg/mL (10.39 mM); Clear solution Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline) Solubility: ≥ 2.08 mg/mL (10.39 mM); Clear solution Add each solvent one by one: 10% DMSO >> 90% corn oil Solubility: ≥ 2.08 mg/mL (10.39 mM); Clear solution 				

BIOLOGICAL ACTIVITY

Description	Camalexin is a phytoalexin isolated from <i>Camelina sativa</i> (Cruciferae) with antibacterial, antifungal, antiproliferative and anticancer activities. Camalexin can induce reactive oxygen species (ROS) production ^{[1][2][3]} .
IC₅₀ & Target	Reactive oxygen species (ROS) ^{[1][2]}
In Vitro	Camalexin shows antiproliferative activity against a human breast cancer cell line ^[2] . For the oomycetes <i>Phytophthora</i> and <i>Pythium</i> Nep1-like proteins (necrosis and ethylene-inducing peptide 1-like proteins)

are the initial triggers of Camalexin synthesis and formation of reactive oxygen species (ROS). ROS appear to be of general relevance for Camalexin formation. Chemical induction of ROS, such as by application of acifluorfen, coincided with Camalexin synthesis. In a screen for enhanced susceptibility to *Alternaria brassicicola* the *esa1* mutant is identified, which shows delayed Camalexin induction. Particularly in response to ROS inducing agents reduced Camalexin levels are synthesized. This crucial role for ESA1 is confirmed by the inability of *esa1* mutants to synthesize Camalexin in response to *Leptosphaeria maculans*. An additional mutant that exhibits greatly reduced Camalexin accumulation is *ups1*, which is isolated on the basis of diminished expression of a tryptophan biosynthetic enzyme^[2].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

CUSTOMER VALIDATION

- Sci China Life Sci. 2022 Nov 28.
- Cell Physiol Biochem. 2017;41(2):731-741.

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REFERENCES

- [1]. William A.Ayer, et al. Synthesis of camalexin and related phytoalexins. *Tetrahedron*. Volume 48, Issue 14, 1992, Pages 2919-2924.
- [2]. Glawischnig E. Camalexin. *Phytochemistry*. 2007 Feb;68(4):401-6.
- [3]. Mezenцев R, et al. Antiproliferative and cancer chemopreventive activity of phytoalexins: focus on indole phytoalexins from crucifers. *Neoplasma*. 2003;50(4):239-45.
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Caution: Product has not been fully validated for medical applications. For research use only.

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