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Produktinformation

- Forschungsprodukte & Biochemikalien
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- Laborgeräte & Service

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See the following pages for more information!

Lieferung & Zahlungsart

siehe unsere Liefer- und Versandbedingungen

Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

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trans-Chalcone

Cat. No.: HY-Y0598

CAS No.: 614-47-1

Molecular Formula: $C_{15}H_{12}O$

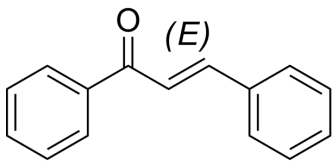
Molecular Weight: 208.26

Target: Fatty Acid Synthase (FASN); Apoptosis; Fungal

Pathway: Metabolic Enzyme/Protease; Apoptosis; 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 : 100 mg/mL (480.17 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	4.8017 mL	24.0085 mL	48.0169 mL
	5 mM	0.9603 mL	4.8017 mL	9.6034 mL
	10 mM	0.4802 mL	2.4008 mL	4.8017 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 (12.00 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.5 mg/mL (12.00 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (12.00 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

trans-Chalcone, isolated from Aronia melanocarpa skin, is a biphenolic core structure of flavonoids precursor. trans-Chalcone is a potent fatty acid synthase (FAS) and α-amylase inhibitor. trans-Chalcone causes cellcycle arrest and induces apoptosis in the breastcancer cell line MCF-7. trans-Chalcone has antifungal and anticancer activity[1][2][3].

In Vitro

trans-Chalcone competitively inhibits porcine pancreatic α-amylase with a K_i of 48 μM[2].
trans-Chalcone (30.23-98.03 μM; 24 hours) induces cell cycle arrest and apoptosis in MCF-7 cells[1].
trans-Chalcone (20-80 μM; 24, 48 hours) reduces the expression of the apoptosis-related protein Bcl-2[1].

trans-Chalcone (58.25 μM; 6, 24 hours) has greater inhibition of Bcl-2, induction of APAF1 and BAX, and strong induction of CIDEA in 24 hours[1].

trans-Chalcone (24 hours) inhibits MCF-7 cell viability (IC_{20}=30.23 μM; IC_{50}=58.25 μM; IC_{80}=98.03 μM). trans-Chalcone (48 h) has IC_{50}s of 41.53 μM and 48.41 μM for MCF-7 and 3T3 cell lines, respectively. trans-Chalcone exhibits a pronounced cytotoxicity activity[1].

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

Apoptosis Analysis[1]

Cell Line:	MCF-7 cell
Concentration:	30.23, 58.25, 98.03 μM
Incubation Time:	24 hours
Result:	Induced apoptosis of the breast cancer cell line.

Cell Cycle Analysis[1]

Cell Line:	MCF-7 cell
Concentration:	30.23, 58.25, 98.03 μM
Incubation Time:	24 hours
Result:	Caused cell cycle arrest in G1.

Western Blot Analysis[1]

Cell Line:	MCF-7 cell
Concentration:	20, 40, 80 μM
Incubation Time:	24, 48 hours
Result:	Reduced the expression of the apoptosis-related protein Bcl-2 and induced the expression of the CIDEA gene. There was marked degradation of cyclin D1 at 48 h.

RT-PCR[1]

Cell Line:	MCF-7 cell
Concentration:	58.25 μM
Incubation Time:	6, 24 hours
Result:	Had greater inhibition of Bcl-2, induction of APAF1 and BAX, and strong induction of CIDEA in 24 hours.

REFERENCES

[1]. Luis Felipe Buso Bortolotto, et al. Cytotoxicity of trans-chalcone and licochalcone A against breast cancer cells is due to apoptosis induction and cell cycle arrest. Biomed Pharmacother. 2017 Jan;85:425-433.

[2]. Mahmoud Najafian, et al. Trans-chalcone: a novel small molecule inhibitor of mammalian alpha-amylase. Mol Biol Rep. 2011 Mar;38(3):1617-20.

[3]. Tamires Aparecida Bitencourt, et al. Trans-chalcone and quercetin down-regulate fatty acid synthase gene expression and reduce ergosterol content in the human

pathogenic dermatophyte Trichophyton rubrum. BMC Complement Altern Med. 2013 Sep 17;13:229.

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