

Data Sheet (Cat.No.TN3627)

Chalepensin

Chemical Properties

CAS No.:	13164-03-9
Formula:	C16H14O3
Molecular Weight:	254.28
Appearance:	N/A
Storage:	0-4°C for short term (days to weeks), or -20°C for long term (months).

Biological Description

Description	Chalepensin behaves as an energy transfer inhibitor at low concentration, it inhibits multiple P450s and that epoxidation activity is crucial for the potential drug interaction through mechanism-based inhibition. Chalepensin shows antiprotozoal activity; it also can cause significant inhibition of radicle growth of <i>A. hypochondriacus</i> and <i>E. crus-galli</i> .
Targets(IC ₅₀)	Antifection: None ATPase: None CYP17: None NADPH-oxidase: None
In vitro	Amoebiasis caused by <i>Entamoeba histolytica</i> is associated with high morbidity and mortality is becoming a major public health problem worldwide, especially in developing countries. Because of the side-effects and the resistance that pathogenic protozoa build against the standard antiparasitic drugs, e.g., metronidazole, much recent attention has been paid to plants used in traditional medicine around the world in order to find new antiprotozoal agents. METHODS AND RESULTS: We collected 32 plants used in Northeast Mexican traditional medicine and the methanolic extracts of these species were screened for antiprotozoal activity against <i>E. histolytica</i> trophozoites using in vitro tests. Only 18 extracts showed a significant inhibiting activity and among them six plant extracts showed more than 80% growth inhibition against <i>E. histolytica</i> at a concentration of 150 µg/mL and the IC ₅₀ values of these extracts were determined. <i>Lippia graveolens</i> Kunth and <i>Ruta chalepensis</i> Pers. showed the more significant antiprotozoal activity (91.54% and 90.50% growth inhibition at a concentration of 150 µg/mL with IC ₅₀ values of 59.14 and 60.07 µg/mL, respectively). CONCLUSIONS: Bioassay-guided fractionation of the methanolic extracts from these two plants afforded carvacrol (1) and Chalepensin (2), respectively, as bioactive compounds with antiprotozoal activity.

Solubility Information

Solubility	< 1 mg/ml refers to the product slightly soluble or insoluble
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Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	3.933 mL	19.663 mL	39.327 mL
5 mM	0.787 mL	3.933 mL	7.865 mL
10 mM	0.393 mL	1.966 mL	3.933 mL
50 mM	0.079 mL	0.393 mL	0.787 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. The storage conditions and period of the stock solution: - 80 °C for 6 months; - 20 °C for 1 month. Please use it as soon as possible.

Reference

1. Antiprotozoal activity against *Entamoeba histolytica* of plants used in northeast Mexican traditional medicine. Bioactive compounds from *Lippia graveolens* and *Ruta chalepensis*. *Molecules*. 2014 Dec 15;19(12):21044-65.
2. Allelochemicals from *Stauranthus perforatus*, a Rutaceous tree of the Yucatan Peninsula, Mexico. *Phytochemistry*. 2005 Feb;66(4):487-94.
3. Effect of selected coumarins on spinach chloroplast photosynthesis. *J Agric Food Chem*. 1999 May;47(5):2137-40.

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