Product Data Sheet

Product Name: Thienyldecyl Isothiocyanate
Cat. No.: GC15244

Chemical Properties

Cas. No.	288323-41-1		
Chemical Name	2-(10-isothiocyanatodecyl)-thiophene		
SMILES	S=C=NCCCCCCCCCCC1=CC=CS1		
Formula	$C_{15}H_{23}NS_2$	M.Wt	281.5
Solubility	≤30mg/ml in ethanol;20mg/ml in DMSO;20mg/ml in dimethyl formamide	Storage	Store at -20°C
General tips	For obtaining a higher solubility , please warm the tube at 37 ℃ and shake it in the ultrasonic bath for a while.Stock solution can be stored below -20℃ for several months.		
Shipping Condition	Evaluation sample solution : ship with blue ice All other available size: ship with RT , or blue ice upon request.		
Structure	Thienyldecyl Isothiocyanate		

Background

Thienyldecyl isothiocyanate is a cytochrome P450 inhibitor [1].

The human cytochrome P450 (CYP), a cellular chromophore, has been implicated in metabolism of drugs, arachidonic acid, foreign chemicals, and eicosanoids; steroid synthesis and metabolism; vitamin D3 synthesis and metabolism; cholesterol metabolism and bile-acid biosynthesis; retinoic acid hydroxylation. Until now, there are more than 270 different CYP gene families have been identified, with 18 recorded in mammals. It has been repoted that cytochrome P450 is now understood to include a myriad of enzymic reactions implicated in important life processes. Mutations in many CYP genes result in inborn errors of metabolism and contribute to many clinically relevant diseases [2].

Thienyldecyl isothiocyanate was an analog of thienylbutyl isothiocyanate. Thienyldecyl isothiocyanate showed antiproliferative activity against cancer cells presumably that,

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like many isothiocyanates. Thienyldecyl isothiocyanate functioned by modulation of xenobiotic-metabolizing enzymes, such as by inhibition of cytochrome P450, and/or by induction of phase II detoxifying enzymes [1].

References:

[1] Yu R, Mandlekar S, Harvey K J, et al. Chemopreventive isothiocyanates induce apoptosis and caspase-3-like protease activity[J]. Cancer Research, 1998, 58(3): 402-408.

[2] Nebert D W, Russell D W. Clinical importance of the cytochromes P450[J]. The Lancet, 2002, 360(9340): 1155-1162.