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## Product Data Sheet

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Product Name: ATB-337  
Cat. No.: GC12537

### Chemical Properties

Cas. No. 912758-00-0

Chemical Name 2-[(2,6-dichlorophenyl)amino]-benzeneacetic acid, 4-(3-thioxo-3H-1,2-dithiol-5-yl)phenyl ester

SMILES O=C(Oc1ccc(cc1)c1ssc(=S)c1)Cc1ccccc1Nc1c(Cl)cccc1Cl

Formula  $C_{23}H_{15}NCl_2O_2S_3$  M.Wt 504.5

Solubility  $\leq 10$ mg/ml in DMSO; 10mg/ml in dimethyl formamide Storage Store at  $-20^{\circ}C$

General tips For obtaining a higher solubility , please warm the tube at  $37^{\circ}C$  and shake it in the ultrasonic bath for a while. Stock solution can be stored below  $-20^{\circ}C$  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

### Background

ATB-337 is a hybrid molecule of an H<sub>2</sub>S donor and the NSAID diclofenac [1].

Hydrogen sulfide (H<sub>2</sub>S) is a newly recognized signaling molecule with potent cytoprotective actions. Hydrogen sulfide has been involved in mediating many physiological processes, such as the maintenance of gastrointestinal mucosal defense and repair. Hydrogen sulfide also exerts many anti-inflammatory effects, including inhibition of leukocyte adherence to the vascular endothelium and leukocyte migration to sites of inflammation [2].

Oral administration of ATB-337 did not produce any hemorrhagic erosions. Oral administration of an equimolar dose of ATB-337 produced > 90% less small intestinal damage and showed no significant effect on the hematocrit. In rats, administration of ATB-337 (50  $\mu$ mol/kg) showed no significant effect on leukocyte adherence. Oral administration of ATB-337 significantly increased plasma levels of H<sub>2</sub>S by > 40%. In a rat air pouch model, ATB-337 (1  $\mu$ mol/kg) suppressed COX-2 activity. In the rat, ATB-337

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

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inhibited thromboxane synthesis. ATB-337 suppressed arachidonic acid-induced human platelet aggregation. Pretreatment with ATB-337 (10  $\mu$ mol/kg) reduced paw swelling. ATB-337 generated  $\approx$ 12nmol/min of H<sub>2</sub>S when it was incubated in buffer.

### References:

- [1] Wallace J L, Caliendo G, Santagada V, et al. Gastrointestinal safety and anti-inflammatory effects of a hydrogen sulfide-releasing diclofenac derivative in the rat[J]. *Gastroenterology*, 2007, 132(1): 261-271.
- [2] Wallace J L. Physiological and pathophysiological roles of hydrogen sulfide in the gastrointestinal tract[J]. *Antioxidants & redox signaling*, 2010, 12(9): 1125-1133.

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