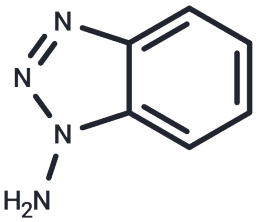
Data Sheet (Cat.No.T5953)

TargetMol

1-Aminobenzotriazole

Chemical Properties



CAS No. : 1614-12-6

Formula: C6H6N4

Molecular Weight: 134.14

Storage: Powder: -20°C for 3 years | In solvent: -80°C for 1 year
Actual storage temperature shall be subject to the COA.

Biological Description

Description	1-Aminobenzotriazole (ABT) (ABT) is a non-specific cytochrome P450 (CYP) inhibitor.
Targets(IC50)	Cytochromes P450
In vitro	In vitro, 1-Aminobenzotriazole rapidly and efficiently destroyed P450 in both hepatic and renal microsomes prepared from naive male Sprague-Dawley rats.Incubation of hepatic or renal microsomes in vitro with 1-Aminobenzotriazole produced detectable destruction of P450 within 5 min. Maximal destruction of P450 occurred within 10 min in both hepatic and renal microsomes during in vitro incubation with 1-Aminobenzotriazole. 1-Aminobenzotriazole-induced destruction of P450 in vitro was concentration-dependent.For hepatic microsomes, maximal destruction of about 70% of P450 required concentrations of 1-Aminobenzotriazole equal to or greater than 10 mM. For renal microsomes, maximal destruction of about 80% of P450 required concentrations of 1-Aminobenzotriazole equal to or greater than 10 mM. In both liver and kidney, only P450 content and P450-dependent activities were significantly decreased[1].
In vivo	Hepatic and renal microsomes and cytosol were prepared from male Sprague-Dawley rats following 1-Aminobenzotriazole pretreatment (0-100 mg/kg ip) for various times. Administration of 100 mg 1-Aminobenzotriazole/kg produced profound reductions in P450 content in both liver and kidney within 2 hr;loss of P450 in both tissues persisted for at least 48 hours.1-Aminobenzotriazole-induced destruction of P450 was dose-dependent.Maximal destruction of about 80% of total hepatic P450 occurred at dosages of 1-Aminobenzotriazole equal to or greater than 10 mg/kg.Maximal destruction of about 80% of total renal P450 occurred at dosages of 1-Aminobenzotriazole equal to or greater than 50 mg/kg[1].
Cell Research	Animals were killed by cervical dislocation and decapitation.?Kidneys and livers were excised quickly and placed in ice cold 1.15% KC].?Renal inner medulla and papilla were discarded.?Renal cortex and liver were minced and homogenized in 3 vol of 100 mM phosphate buffer (pH 7.4) containing 250 mM sucrose and 1.5 mM EDTA.?Kidney and liver homogenates were centrifuged at 10000g for 20 min. The resulting supematant was centrifuged at 105000g for 60 min. The 105000g supematant (cytosol) was used for the determination of glutathione S-transferase activity .?The microsomal fraction (pellet) was resuspended in phosphate buffered sucrose (pH 7.4) and centrifuged at 105000g

Cell Research	for 60 min. The resulting microsomal fraction was resuspended in phosphate-buffered sucrose (pH 7.4) containing 20% glycerol to a final concentration of l0-20 mg protein per milliliter.?The microsomal fraction was used for the determination of P450, cytochrome b5, and NADPH-cytochrome-c reductase activities.?Microsomes from control or ABT-treated rats were either analyzed on the day of preparation or stored overnight at -80 C. In all cases, control microsomes were handled identically with ABT-treated microsomes.?P450 content in control and ABT-treated microsomes was not affected by overnight storage[1].
Animal Research	For in vivo experiments, rats received ABT (O-100 mg/kg) dissolved in normal saline at a concentration of I-50 mg/ml.?ABT was administered ip and rats were killed at various times thereafter.?Total injection volume was either 1 or 2 ml/kg and control rats received 2 ml saline/kg[1].

Solubility Information

Solubility	DMSO: 250 mg/mL (1863.72 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+40% PEG300+5% Tween 80+45% Saline: 4 mg/mL (29.82 mM),Sonication is recommended. *Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one. Dissolve by heating and/or sonication if necessary. Working solution is recommended to be prepared and used immediately. The formulation provided above is for reference purposes only. In vivo formulations may vary and should be modified based on specific experimental conditions.*

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	7.4549 mL	37.2745 mL	74.549 mL
5 mM	1.491 mL	7.4549 mL	14.9098 mL
10 mM	0.7455 mL	3.7274 mL	7.4549 mL
50 mM	0.1491 mL	0.7455 mL	1.491 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Reference

Mugford C A , Mortillo M , Mico B A , et al. 1-Aminobenzotriazole-Induced Destruction of Hepatic and Renal Cytochromes P450 in Male Sprague-Dawley Rats[J]. Fundamental and Applied Toxicology, 1992, 19(1):43-49.
Yang K , Hye Koh K , Jeong H . Induction of CYP2B6 and CYP3A4 Expression by 1-Aminobenzotriazole (ABT) in Human Hepatocytes[J]. Drug Metabolism Letters, 2010, 4(3):129-133.