
Product Data Sheet

Product Name: ARM1
Cat. No.: GC11201

Chemical Properties

Cas. No. 68729-05-5

Chemical Name 4-[4-(phenylmethyl)phenyl]-2-thiazolamine

SMILES NC(N1)=SC=C1C(C=C2)=CC=C2CC3=CC=CC=C3

Formula $C_{16}H_{16}N_2S$ M.Wt 268.4

Solubility $\leq 1\text{mg/ml}$ in ethanol; 10mg/ml in DMSO; 15mg/ml in dimethyl formamide Storage Store at -20°C

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

ARM1 (4-(4-benzylphenyl) thiazol-2-amine) is a LTB₄ synthesis inhibitor [1].

Leukotriene A₄ (LTA₄) hydrolase/aminopeptidase is a bifunctional zinc metalloenzyme that catalyzes the synthesis of the proinflammatory mediator LTB₄ from LTA₄ and cleaves the chemotactic tripeptide Pro-Gly-Pro. LTB₄ is a key lipid mediator in the innate immune response [1][2].

ARM1 is a LTB₄ synthesis inhibitor. ARM1 is a thiazolamine that inhibits LTB₄ synthesis and conversion of LTA₄ to LTB₄ by purified LTA₄H with K_i value of $2.3\ \mu\text{M}$. 50- to 100-fold higher concentrations of ARM1 did not significantly affect hydrolysis of Pro-Gly-Pro by LTA₄ hydrolase. In isolated human polymorphonuclear neutrophils (PMNs), ARM1 efficiently inhibited LTB₄ synthesis with IC_{50} value of about $0.5\ \mu\text{M}$ and complete inhibition at $5\ \mu\text{M}$. ARM1 inhibited the epoxide hydrolase activity of LTA₄H without significantly affecting its ability to cleave Pro-Gly-Pro. In the crystal structure of LTA₄H in

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complex with ARM1, ARM1 occupied the binding site for the ω -end of LTA4 [1].

References:

- [1]. Stsiapanava A, Olsson U, Wan M, et al. Binding of Pro-Gly-Pro at the active site of leukotriene A4 hydrolase/aminopeptidase and development of an epoxide hydrolase selective inhibitor. Proc Natl Acad Sci U S A. 2014 Mar 18;111(11):4227-32.
- [2]. Haeggström JZ. Leukotriene A4 hydrolase/aminopeptidase, the gatekeeper of chemotactic leukotriene B4 biosynthesis. J Biol Chem. 2004 Dec 3;279(49):50639-42.
- [3]. Snelgrove RJ, Jackson PL, Hardison MT, et al. A critical role for LTA4H in limiting chronic pulmonary neutrophilic inflammation. Science. 2010 Oct 1;330(6000):90-4.

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