Product Data Sheet

Product Name: Valeroyl Salicylate
Cat. No.: GC10335

Chemical Properties

Cas. No.	64206-54-8		
Chemical Name	2-[(1-oxopentyl)oxy]-benzoic acid		
SMILES	CCCCC(=O)Oc1ccccc1C(=O)O		
Formula	$C_{12}H_{14}O_4$	M.Wt	222.2
Solubility	≥ 14.15mg/mL in DMSO	Storage	Room temperature
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	Valeroyl Salicylate		

Background

Valeroyl Salicylate is an irreversible and selective inhibitor of cyclooxygenase-1 (COX-1) with IC50 values of 0.8 and 15 mM for ovine COX-1 and -2, respectively [1].

Cyclooxygenase (COX), also known as prostaglandin-endoperoxide synthase (PTGS, PGHS), is an enzyme responsible for formation of prostanoids, including thromboxane and prostaglandins such as prostacyclin. COX-1 is the constitutive isoform and is mainly responsible for the synthesis of cytoprotective prostaglandins in the gastrointestinal tract (GI) and of the proaggregatory thromboxane in blood platelets. COX-2 is inducible and short-lived that is stimulated by endotoxin, cytokines, and mitogens. COX-2 plays important roles in prostaglandin biosynthesis in inflammatory cells the central nervous system [1][2].

Valeroyl Salicylate is an irreversible and selective inhibitor of cyclooxygenase-1 (COX-1) with IC50 values of 0.8 and 15 mM for ovine COX-1 and -2, respectively. In cos-1 cells expressing either COX-1 or -2, 500 μM of valeroyl salicylate inhibited human COX-1 and -

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2 by 85% and 15%, respectively. The half-lives for inactivation of human recombinant COX-1 in the presence of 500 μM valeroyl salicylate was 12 minutes [2].

References:

[1]. Johnson JL, Wimsatt J, Buckel SD, et al. Purification and characterization of prostaglandin H synthase-2 from sheep placental cotyledons. Arch Biochem Biophys. 1995 Dec 1;324(1):26-34.

[2]. Bhattacharyya DK, Lecomte M, Dunn J, et al. Selective inhibition of prostaglandin endoperoxide synthase-1 (cyclooxygenase-1) by valerylsalicylic acid. Arch Biochem Biophys. 1995 Feb 20;317(1):19-24.