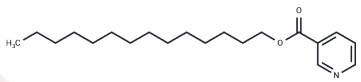
Data Sheet (Cat.No.T19438)

TargetMol

Myristyl nicotinate

Chemical Properties



CAS No. : 273203-62-6

Formula: C20H33NO2

Molecular Weight: 319.48

Appearance: no data available

Storage: Powder: -20°C for 3 years | In solvent: -80°C for 1 year

Biological Description

Description	Myristyl nicotinate (Tetradecyl nicotinate) is an ester prodrug being developed for delivering nicotinic acid (NIC) into the skin to prevent actinic keratosis and its progression to skin cancer.
Targets(IC50)	GPCR
In vitro	Myristyl nicotinate is an ester prodrug under development for delivery of nicotinic acid to skin for treatment and prevention of conditions that involve skin barrier impairment such as chronic photodamage and atopic dermatitis or for mitigating skin barrier impairment that results from therapy such as retinoids or steroids[1].?The formulation stability of Myristyl nicotinate is crucial because even small amounts of free nicotinic acid cause skin flushing, an effect that is not harmful but would severely limit tolerability [1].
In vivo	Retinoic acid therapy resulted in stratum corneum thinning of approximately 25% (P = 0.006 versus baseline) that was ameliorated by Myristyl nicotinate use (P < 0.005). Therapy resulted in an increased rate of transepidermal water loss (TEWL) of approximately 45% (P = 0.001 versus baseline) and use of Myristyl nicotinate protected against the increase in TEWL with the strongest protection provided by prior use of Myristyl nicotinate (P = 0.056 versus placebo). Myristyl nicotinate use reduced the incidence of side-effects of the therapy and again prior use provided the greatest reduction of side-effects. Subjects showed statistically significant clinical improvement (P < 0.05 versus baseline) during the study. Myristyl nicotinate use did not interfere with any clinical improvement parameters and improved effects on temple laxity (P = 0.01 versus placebo). Analysis of changes in epidermal thickness, Ki67-positive cells and intensity of loricrin staining demonstrated that Myristyl nicotinate either improved or did not interfere with retinoic acid efficacy. These results show that prior and concurrent use of Myristyl nicotinate can mitigate barrier impairment and improve the tolerability of retinoic acid therapy for facial photodamage without interfering with efficacy[1].

Solubility Information

Solubility	DMSO: 15 mg/mL (46.95 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	3.1301 mL	15.6504 mL	31.3009 mL
5 mM	0.626 mL	3.1301 mL	6.2602 mL
10 mM	0.313 mL	1.565 mL	3.1301 mL
50 mM	0.0626 mL	0.313 mL	0.626 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.

Reference

Jacobson MK, et al. Effect of myristyl nicotinate on retinoic acid therapy for facial photodamage. Exp Dermatol. 2007 Nov;16(11):927-35.

Catz P, et al. Simultaneous determination of myristyl nicotinate, nicotinic acid, and nicotinamide in rabbit plasma by liquid chromatography-tandem mass spectrometry using methyl ethyl ketone as a deproteinization solvent. J Chromatogr B Analyt Technol Biomed Life Sci. 2005 Dec 27;829(1-2):123-35.

Tashtoush BM, et al. Analysis and stability study of myristyl nicotinate in dermatological preparations by high-performance liquid chromatography. J Pharm Biomed Anal. 2007 Feb 19;43(3):893-9.

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