(±)-α-Tocopherol nicotinate

Cat. No.: HY-B0757A

CAS No.: 51898-34-1

Molecular Formula: $C_{35}H_{53}NO_3$

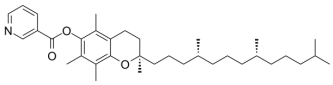
Molecular Weight: 535.8

Target: Reactive Oxygen Species; Endogenous Metabolite

Pathway: Immunology/Inflammation; Metabolic Enzyme/Protease; NF-κB

Storage:

Powder	-20°C	3 years
	4°C	2 years
In solvent	-80°C	6 months
	-20°C	1 month



SOLVENT & SOLUBILITY

In Vitro

DMSO : 10 mg/mL (18.66 mM; ultrasonic and warming and heat to 60°C)

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	1.8664 mL	9.3318 mL	18.6637 mL
5 mM	0.3733 mL	1.8664 mL	3.7327 mL
10 mM	0.1866 mL	0.9332 mL	1.8664 mL

Please refer to the solubility information to select the appropriate solvent.

In Vivo

1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 1 mg/mL (1.87 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: 1 mg/mL (1.87 mM); Suspended solution; Need ultrasonic
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 1 mg/mL (1.87 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

(±)-α-Tocopherol nicotinate, vitamin E - nicotinate, is an orally active fat-soluble antioxidant that prevents lipid peroxidation in cell membranes. (±)-α-Tocopherol nicotinate is hydrolysed in the blood to α -tocopherol and niacin and may be used in studies of related vascular diseases[1][2].

In Vitro

(±)-α-Tocopherol nicotinate can help slow the progression of microangiopathy in type 2 diabetics by reducing lipid peroxidation stress in the red blood cell membrane, improving blood rheology and red blood cell deformability[1].
(±)-α-Tocopherol nicotinate (Vitamin E) (2 μg/mL, 24 h) increases the proportion of CD4+CD8-T cells in thymocytes by

	pretreating the thymic epithelial cell line IT45-R1 and then incubating it with immature T cells[2]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.
In Vivo	(±)-α-Tocopherol nicotinate (Vitamin E) (in animal feedings, 50 mg/kg or 585 mg/kg, 7 weeks) significantly increases the proportion of CD4+CD8- T cells and the expression of ICAM-1 in thymic epithelial cells (TECs) isolated of male Fisher rats at high dose concentrations of 585 mg/kg compared to low dose treatment of 50 mg/kg[2]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

[1]. T W Chung, et al. Reducing lipid peroxidation stress of erythrocyte membrane by alpha-tocopherol nicotinate plays an important role in improving blood rheological properties in type 2 diabetic patients with retinopathy. Diabet Med. 1998 May;15(5):380-5.

[2]. Satoru Moriguchi, et al.Vitamin E enhances T cell differentiation through increased epithelial cell function in rat thymus,Nutrition Research,Volume 17, Issue 5,1997,Pages 873-883.

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