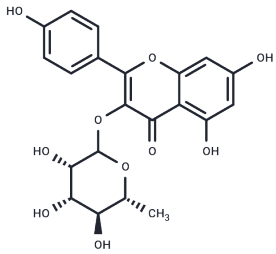
Data Sheet (Cat.No.TN1362)

TargetMol

Afzelin

Chemical Properties



CAS No. : 482-39-3

Formula: C21H20O10

Molecular Weight: 432.38

Storage: Keep away from direct sunlight,Store at low temperature
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	Afzelin (Kaempferol-3-O-rhamnoside) exhibits several cellular activities such as DNA-protective, antibacterial, antioxidant, anti-inflammatory, and UV-absorbing properties, potentially protecting human skin from UVB-induced damage through a combination of UV-absorbing and cellular actions. Afzelin mitigates mitochondrial damage, promotes mitochondrial biogenesis, and reduces levels of mitophagy-related proteins, parkin and PTEN-induced putative kinase 1.
Targets(IC50)	PTEN,Mitochondrial Metabolism,Antibacterial,Autophagy,p38 MAPK,Prostaglandin Receptor,TNF
In vitro	Therefore, in this study, we investigated the protective effects of Afzelin, one of the flavonoids, against UV irradiation in human keratinocytes and epidermal equivalent models. Spectrophotometric measurements revealed that the Afzelin extinction maxima were in the UVB and UVA range, and UV transmission below 376 nm was <10%, indicating UV-absorbing activity of Afzelin. In the phototoxicity assay using the 3T3 NRU phototoxicity test (3T3-NRU-PT), Afzelin presented a tendency to no phototoxic potential. In addition, in order to investigate cellular functions of Afzelin itself, cells were treated with Afzelin after UVB irradiation. In human keratinocyte, Afzelin effectively inhibited the UVB-mediated increase in lipid peroxidation and the formation of cyclobutane pyrimidine dimers. Afzelin also inhibited UVB-induced cell death in human keratinocytes by inhibiting intrinsic apoptotic signaling. Furthermore, Afzelin showed inhibitory effects on UVB-induced release of pro-inflammatory mediators such as interleukin-6, tumor necrosis factor-α±, and prostaglandin-E2 in human keratinocytes by interfering with the p38 kinase pathway. Using an epidermal equivalent model exposed to UVB radiation, anti-apoptotic activity of Afzelin was also confirmed together with a photoprotective effect at the morphological level[1]

Solubility Information

Solubility	Ethanol: 12 mg/mL (27.75 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.3128 mL	11.5639 mL	23.1278 mL
5 mM	0.4626 mL	2.3128 mL	4.6256 mL
10 mM	0.2313 mL	1.1564 mL	2.3128 mL
50 mM	0.0463 mL	0.2313 mL	0.4626 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

Shin SW, et al. Antagonizing effects and mechanisms of afzelin against UVB-induced cell damage. PLoS One. 2013 Apr 23;8(4):e61971.

Lee SB, et al. Afzelin ameliorates D-galactosamine and lipopolysaccharide-induced fulminant hepatic failure by modulating mitochondrial quality control and dynamics. Br J Pharmacol. 2017 Jan;174(2):195-209.