Data Sheet (Cat.No.TMA0424)

TargetMol
A DRUG SCREENING EXPERT

Martynoside

Chemical Properties

CAS No.:	67884-12-2
Formula:	C31H40O15
Molecular Weight:	652.7
Appearance:	N/A
Storage:	0-4℃ for short term (days to weeks), or -20℃ for long term (months).

Biological Description

Description	Martynoside is a natural selective estrogen receptor modulator, which has antioxidative, anti-muscle fatigue, anticancer and antimetastatic activities. Martynoside has the potential of antagonizing sports anaemia, the mechanism of this effect might be related to preventing RBC from free radical damage.
Targets(IC_{50})	Estrogen receptor: None Progestogen receptor: None ROS: None
In vitro	METHODS AND RESULTS: Free radical reactions of Martynoside (MAR), a phenylpropanoid glycoside, with a variety of oxidants were studied in the aqueous solution by laser photolysis and pulse radiolysis techniques. The pKa value of Martynoside in aqueous solution was measured from the pH dependent changes of the UV absorption at 384 nm with value of pKa = 9.2. The phenoxyl radical of Martynoside which exhibits maximum absorption at 360 nm was generated by one-electron transfer to N3* or Br2*-. Other important properties of phenoxyl radical such as extinction coefficient, formation and decay rate constants were also determined. CONCLUSIONS: The reaction rate constant of O2*- with Martynoside , k = 8.5 x 10(4) dm3 x mol(-1) x s(-1), was measured by the method of competition kinetics. By measuring time-resolved luminescence emission at 1270 nm, the quenching rate constant of singlet oxygen by MAR was obtained to be 3.3 x 10(6) dm3 x mol(-1) x s(-1). Reduction potential of the Martynoside couple (MAR*/MAR), determined using rutin as reference compound, gave a value E = 0.66 V vs. NHE. The antioxidative properties of Martynoside were compared with those of some well-known antioxidants.

Solubility Information

Solubility	< 1 mg/ml refers to the product slightly soluble or insoluble

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	1.532 mL	7.660 mL	15.321 mL
5 mM	0.306 mL	1.532 mL	3.064 mL
10 mM	0.153 mL	0.766 mL	1.532 mL
50 mM	0.031 mL	0.153 mL	0.306 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. The storage conditions and period of the stock solution: - 80 ℃ for 6 months; - 20 ℃ for 1 month. Please use it as soon as possible.

Reference

1. Antioxidative properties of Martynoside: pulse radiolysis and laser photolysis study. Free Radic Res. 2003 Aug;37(8):829-33.
2. Retardation of skeletal muscle fatigue by the two phenylpropanoid glycosides: verbascoside and martynoside from Pedicularis plicata maxim. Phytother Res. 1999 Nov;13(7):621-3.

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