Natural Products



alpha-Solanine Datasheet

4th Edition (Revised in July, 2016)

[Product Information]

Name: alpha-Solanine

Catalog No.: CFN90560

Cas No.: 20562-02-1

Purity: 98%

M.F: C45H73NO15

M.W: 868.06

Physical Description: Powder

Synonyms:solanid-5-ene,3-beta-((o-6-deoxy-alpha-l-mannopyranosyl-(1-2)-o-(beta-d-glu cop;yl-beta-d-galactopyranosyl)oxy)-;yranosyl-(1-3))-beta-d-galactopyranosyl)oxy)-.

HO HO,

[Intended Use]

- 1. Reference standards;
- 2. Pharmacological research;
- 3. Synthetic precursor compounds;
- 4. Intermediates & Fine Chemicals;
- 5. Others.

[Source]

The herbs of Solanum nigrum L.

[Biological Activity or Inhibitors]

alpha-Solanine, a naturally steroidal glycoalkaloid, is found in leaves and fruits of plants as a defensive agent against fungi, bacteria and insects; solanine exerts a significant chemoprotective and chemotherapeutic effects on an animal model of breast cancer through apoptosis induction, cell proliferation and angiogenesis inhibition, these findings reveal a new therapeutic potential for solanine in cancer.^[1]

alpha-Solanine has developmental toxicity.^[2]

alpha-Solanine and alpha-chaconine are reversible inhibitors of human butyryl-

cholinesterase.[3]

Long-term use of high solanine can dramatically induce hematological and chemical changes in a dose-dependent manner, can cause acute toxicities, coma, and death in human.^[4]

alpha-Solanine has proliferation-inhibiting and apoptosis-promoting effect on multiple cancer cells, such as clone, liver, melanoma cancer cells; it also shows beneficial effects on pancreatic cancer in vitro and in vivo, which may via suppressing the pathway proliferation, angiogenesis and metastasis.^[5]

[Solvent]

Pyridine, Methanol, Ethanol, etc.

[HPLC Method]^[6]

Mobile phase: Tetrahydrofuran- 0.25 M Monopotassium phosphate buffer- Acetonitrile =50:25:25;

Flow rate: 1.0 ml/min;

Column temperature: Room Temperature;

The wave length of determination: 208 nm.

[Storage]

2-8°C, Protected from air and light, refrigerate or freeze.

[<u>References</u>]

[1] Mohsenikia M, Alizadeh A M, Khodayari S, et al. Eur. J. Pharmacol., 2013, 718

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[2] Rayburn J R, Friedman M, Bantle J A. Food Chem. Toxicol. , 1995, 33(12):1013-9.

[3] Nigg H N, Ramos L E, Graham E M, et al. Fundamental & Applied Toxicology, 1996, 33(2):272-81.

[4] Khodayari S, Alizadeh A M, Kouhpayeh S A, *et al. Journal of Babol University of Medical Sciences*, 2013, 15(5):24-31.

[5] Lv C, Kong H, Dong G, et al. Plos One, 2014, 9(2):e87868.

[6] Kozukue N, Mizuno S. J. Jpn. Soc. Food Sci. 1986, 33(4):232-7.

[Contact]

Address:	Email: info@chemfaces.com
S5-3 Building, No. 111, Dongfeng Rd.,	Tel: +86-27-84237783
Wuhan Economic and Technological Development Zone,	Fax: +86-27-84254680
Wuhan, Hubei 430056,	Web: www.chemfaces.com
China	Tech Support: service@chemfaces.com