Natural Products

ChemFaces

1-Deoxynojirimycin Datasheet

4th Edition (Revised in July, 2016)

[Product Information]

Name: 1-Deoxynojirimycin

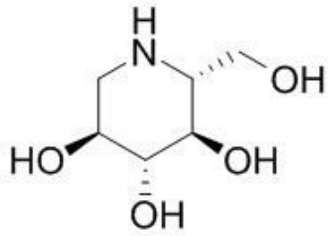
Catalog No.: CFN99933

Cas No.: 19130-96-2

Purity: >=98%

M.F: $C_6H_{13}NO_4$

M.W: 163.17



Physical Description: Powder

Synonyms: (2r,3r,4r,5s)-2-Hydroxymethyl-3,4,5-trihydroxypiperidine;1,5-Dideoxy-1,5-imino-d-glucito; 5-Amino-1,5-dideoxy-d-glycopyranose; 5-Dideoxy-5-amino-d-glucopyranos;5-Piperidinetriol(2r-(2alpha,3beta,4alpha,5beta))-2-(hydroxymethyl)-4.

[Intended Use]

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

[Source]

The root barks of *Morus alba L.*

[Biological Activity or Inhibitors]

1-Deoxynojirimycin (DNJ), a potent glucosidase inhibitor, is beneficial for the suppression of abnormally high blood glucose levels and thereby prevention of diabetes mellitus, suggests that the newly developed DNJ-enriched powder can be used as a dietary supplement for preventing diabetes mellitus.[1]

1-Deoxynojirimycin impairs oligosaccharide processing of alpha 1-proteinase inhibitor and inhibits its secretion in primary cultures of rat hepatocytes.[2]

1-Deoxynojirimycin as a therapeutic agent by controlling the overgrowth and biofilm formation of S. mutans. [3]

1-Deoxynojirimycin can block human immunodeficiency virus envelope glycoprotein-mediated membrane fusion at the CXCR4 binding step.[4]

[Solvent]

Pyridine, Methanol, Ethanol, etc.

[HPLC Method][5]

Mobile phase: Acetonitile-0.1% Aqueous acetic acid=36:64 ;

Flow rate: 1.0 ml/min;

Column temperature: 30 ℃;

The wave length of determination: 254 nm.

[Storage]

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

[References]

[1] Toshiyuki Kimura , Kiyotaka Nakagawa , Hiroyuki Kubota , *et al. J.Agr. Food Chem., 2007, 55(14):5869-74.*

[2] Gross V, Andus T, Tran-Thi T A, *et al. J.Biol. Chem., 1983, 258(20):2203-9.*

[3] Islam B, Khan S N, Haque I, *et al. J. Antimicrob. Chemoth., 2008, 62(4):751-7.*

[4] Papandréou M J, Barbouche R, Guieu R, *et al. Mol. Pharmacol., 2002, 61(1):186-93.*

[5] Wu Q S,Wang J,Wu F A,*et al. Science of Sericulture,2009, 35(1):134-8.*

[Contact]

Address:
S5-3 Building, No. 111, Dongfeng Rd.,
Wuhan Economic and Technological Development Zone,
Wuhan, Hubei 430056,
China

Email: info@chemfaces.com
Tel: +86-27-84237783
Fax: +86-27-84254680
Web: www.chemfaces.com
Tech Support: service@chemfaces.com