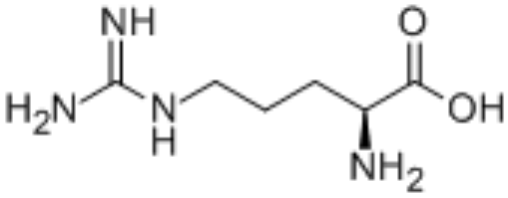
Natural Products

ChemFaces

L-Arginine Datasheet

4th Edition (Revised in July, 2016)

[Product Information]



Name: L-Arginine

Catalog No.: CFN90550

Cas No.: 74-79-3

Purity: >=99%

M.F: $C_6H_{14}N_4O_2$

M.W: 174.20

Physical Description: Powder

Synonyms:(S)-(+)-Arginine;2-Amino-5-guanidinovaleric acid.

[Intended Use]

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

[Source]

The seeds of *Glycine max*.

[Biological Activity or Inhibitors]

L-Arginine can improve endothelium-dependent vasodilation in hypercholesterolemic humans, possibly by increasing the synthesis of endothelium-derived relaxing factor.[1]

The metabolism of L-arginine by activated Mphi to substances with cytostatic and even lethal effects on target cells is a relatively recent discovery.[2]

L-Arginine is the physiological precursor for the formation of nitric oxide in endothelium-dependent relaxation. [3]

Arginine supplementation does not affect plasma glucose levels in nondiabetic rats, but can reduce body weight loss and plasma glucose levels in diabetic rats, thus, dietary L-Arginine supplementation stimulates endothelial NO synthesis by increasing endothelial tetrahydrobiopterin (BH(4)) provision, which is beneficial for vascular function and glucose homeostasis in diabetic subjects.[4]

L-Arginine is required for expression of the activated macrophage effector mechanism causing selective metabolic inhibition in target cells.[5]

Supplementation of dietary L-arginine, the endothelium-derived relaxing factor (EDRF) precursor, improves endothelium-dependent vasorelaxation, more importantly, we have shown that this improvement in EDRF activity is associated with a reduction in atherogenesis.[6]

[Solvent]

Pyridine, Methanol, Ethanol, etc.

[HPLC Method][7]

Mobile phase: Acetonitrile-0.01M Ammonium dihydrogen phosphate buffer solution (adjusted pH to 2.0±0.1 with phosphoric acid)=75:25 ;

Flow rate: 1.0 ml/min;

Column temperature: 30 ℃;

The wave length of determination: 206 nm.

[Storage]

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

[References]

[1] Creager M A, Gallagher S J, Girerd X J, *et al. J. Clin. Invest., 1992, 90(4):1248-53.*

[2] Billiar T R, Curran R D, Stuehr D J, *et al. J.Exp.Med., 1989, 169(4):1467-72.*

[3] Palmer R M J, Rees D D, Ashton D S, *et al. Biochem. Bioph. Res.Co., 1988, 153(3): 1251-6.*

[4] Kohli R, Meininger C J, Haynes T E, *et al. J.Nutr., 2004, 134(3):600-8.*

[5] Jr H J, Vavrin Z, Taintor R R.*J. Immun., 1987, 138(2):550-65.*

[6] Cooke J P, Singer A H, Tsao P, *et al. J. Clin. Invest., 1992, 90(3):1168-72.*

[7] Ja Y, Wu H, Qian B, *et al. China Pharmacy, 2008, 19(1):54-6.*

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