Natural Products

ChemFaces

Proline Datasheet

4th Edition (Revised in July, 2016)

[Product Information]

Name: Proline

Catalog No.: CFN99612

Cas No.: 147-85-3

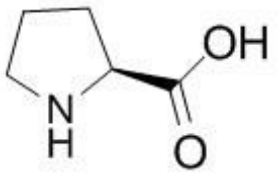
Purity: > 98%

M.F: $C_5H_9NO_2$

M.W: 115.1

Physical Description: Powder

Synonyms: (2S)-2-pyrrolidinecarboxylic acid.



[Intended Use]

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

[Source]

The herbs of *Gynura japonica.*

[Biological Activity or Inhibitors]

Proline accumulates in many plant species in response to environmental stress, it can act as a signaling molecule to modulate mitochondrial functions, influence cell proliferation or cell death and trigger specific gene expression, which can be essential for plant recovery from stress, the engineering of proline metabolism could lead to new opportunities to improve plant tolerance of environmental stresses.[1]

Elicitor- and wound-induced oxidative cross-linking of a proline-rich plant cell wall protein, which is a novel, rapid defense response.[2]

Proline isomerization as a novel noncovalent histone modification that regulates transcription and provides evidence for crosstalk between histone lysine methylation and proline isomerization.[3]

Human pVHL binds to a short HIF-derived peptide when a conserved proline residue at the core of this peptide is hydroxylated, because proline hydroxylation requires molecular oxygen and Fe^{2+} , this protein modification may play a key role in mammalian oxygen sensing.[4]

[Solvent]

Pyridine, Methanol, Hot water, etc.

[HPLC Method][5]

Mobile phase: 40%Acetonitrile- 0.1M Formic acid H2O,gradient elution ;

Flow rate: 1.0 ml/min;

Column temperature: 45 ℃;

The wave length of determination: 280 nm.

[Storage]

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

[References]

[1] Szabados L, Savouré A. *Trends Plant. Sci., 2010, 15(2):89-97.*

[2] Bradley D J, Kjellbom P, Lamb C J. *Cell, 1992, 70(1):21-30.*

[3] Nelson C J, Santos-Rosa H, Kouzarides T. *Cell, 2006, 126(5):905-16.*

[4] Ivan M, Kondo K, Yang H, et al. *Science, 2001, 292(5516):464-8.*

[5] Rusconi L, Perseo G, Franzoi L, *et al. J. Chromatogr. A, 1985, 349(349):117-30.*

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