Natural Products

ChemFaces

Inosine Datasheet

4th Edition (Revised in July, 2016)

[Product Information]

Name: Inosine

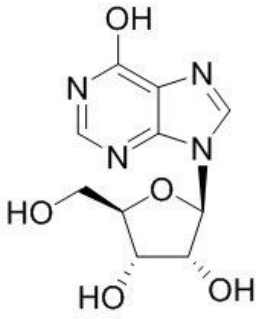
Catalog No.: CFN93249

Cas No.: 58-63-9

Purity: > 98%

M.F: $C_{10}H_{12}N_4O_5$

M.W: 268.2



Physical Description: Powder

Synonyms: 9-[(2R,3R,4S,5R)-3,4-dihydroxy-5-(hydroxymethyl)-2-oxolanyl]-3H-purin-6-one; 1,9-Dihydro-9-beta-D-ribofuranosyl-6H-purin-6-one; 9-beta-D-Ribofuranosylhypoxanthine;Hypoxanthosine; Aminosin; Carnine; Delimmun; Inosie; Oxiamine; Trophicardyl.

[Intended Use]

1. Reference standards;
2. Pharmacological research;
3. Food research;
4. Cosmetic research;
5. Synthetic precursor compounds;
6. Intermediates & Fine Chemicals;
7. Ingredient in supplements, beverages;
8. Others.

[Source]

The herbs of *Beta vulgaris.*

[Biological Activity or Inhibitors]

Inosine, a major degradation product of adenosine, has potent immunomodulatory and neuroprotective effects, it enhances mast-cell degranulation, attenuates the production of pro-inflammatory mediators by macrophages, lymphocytes and neutrophils, and is protective in animal models of sepsis, ischemia–reperfusion and autoimmunity;it preserves the viability of glial cells and neuronal cells during hypoxia, and stimulates axonal regrowth after injury; it may be possible to exploit inosine therapeutically for the treatment of tissue damage caused by inflammation and ischemia.[1]

Inosine and adenosine induce changes in vascular permeability indirectly by activating A(3) receptors on mast cells, which in turn release vasoactive substances. [2]

Inosine exists in mRNA at tissue-specific levels and is most abundant in brain mRNA.[3]

Inosine, a naturally occurring metabolite without known side effects, it stimulates extensive axon collateral growth in the rat corticospinal tract after injury, may help to restore essential circuitry after injury to the central nervous system.[4]

Inosine has multiple anti-inflammatory effects with very low toxicity, it inhibits inflammatory cytokine production by a posttranscriptional mechanism and protects against endotoxin-induced shock, suggest that this agent may be useful in the treatment of inflammatory/ischemic diseases.[5]

Inosine induces axonal rewiring and improves behavioral outcome after stroke, it promotes recovery of skilled motor function in a model of focal brain injury.[6,7]

[Solvent]

Pyridine, Methanol, Ethanol, etc.

[HPLC Method][8]

Mobile phase: Methanol- H2O=95:5;

Flow rate: 1.0 ml/min;

Column temperature: Room Temperature;

The wave length of determination: 254 nm.

[Storage]

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

[References]

[1] György Haskó, Michail V. Sitkovsky, Csaba Szabó. *Trends. Pharmacol. Sci., 2004, 25(3):152-7.*

[2] Tilley S L, Wagoner V A, Salvatore C A, *et al. J. Clin. Invest., 2000, 105(3):361-7.*

[3] Paul M S, Bass B L. *Embo J., 1998, 17(4):1120-7.*

[4] Benowitz L I, Irwin N. *P. Natl. Acad. Sci. U. S.A., 1999, 96(23):13486-90.*

[5] Haskó G, Kuhel D G, Németh Z H, *et al. J. Immunol., 2000, 164(2):1013-9.*

[6] Chen P, Goldberg D E, Kolb B*, et al. P. Natl. Acad. Sci., 2002, 99(13):9031-6.*

[7] Smith J M, Lunga P, Story D, *et al. Brain, 2007, 130(Pt 4):915-25.*

[8] Liu W H, Xing Y X, Dong Q, *et al. Food Science, 2009, 30(8):238-40.*

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