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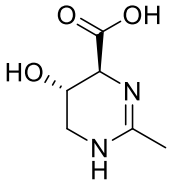
PRODUCT DATA SHEET

Hydroxyectoine

Code No.: **BIA-H2231**

Pack sizes: **25 mg, 100 mg**



Synonyms : (S,S)-β-Hydroxyectoine, 5-Hydroxyectoine, Hydroxyectoin, Pyrostatin A, Pyrostatine A, β-Hydroxyectoine, (4S,5S)-1,4,5,6-Tetrahydro-5-hydroxy-2-methyl-4-pyrimidinecarboxylic acid

Specifications

CAS #	:	**165542-15-4**
Molecular Formula	:	**$C_6H_{10}N_2O_3$**
Molecular Weight	:	**158.16**
Source	:	***Brevibacterium linens***
Appearance	:	**White solid**
Purity	:	**>95% by HPLC**
Long Term Storage	:	**-20°C**
Solubility	:	**Soluble in methanol or DMSO**

Application Notes

Hydroxyectoine (pyrostatin A) is an uncommon 2-iminopyrrolidine produced halophilic and thermophilic bacteria and some Archaea. Hydroxyectoine is osmo- and cytoprotective and is a chemical chaperone, stabilising protein functionality. Hydroxyectoine has anti-inflammatory properties.

References

1. Isolation and synthesis of (−)-(5S)-2-imino-1-methylpyrrolidine-5- carboxylic acid from Cliona tenuis: Structure revision of pyrostatins. Castellanos L. et al. Organic Lett. 2006, 8, 4967.
2. Determination of the ectoine and hydroxyectoine in moderately halophilic bacteria by hydrophilic interaction chromatography. He B. et al. Fenxi Shiyanshi 2016, 35, 93.
3. Ectoines as novel anti-inflammatory and tissue protective lead compounds with special focus on inflammatory bowel disease and lung inflammation. Bethlehem L. & van Echten-Deckert G. Pharmacol Res. 2021, 164, 105389.
4. Effect of tetrahydropyrimidine derivatives on protein-nucleic acids interaction. Type II restriction endonucleases as a model system. Malin G. et al. J Biol Chem. 1999, 274, 6920.
5. Hydroxyectoine protects Mn-depleted photosystem II against photoinhibition acting as a source of electrons. Yankvin D.V. et al. Photosynthesis 2019, 141, 165.

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Building C, 28-54 Percival Road, Smithfield, NSW 2164, AUSTRALIA

Tel: 61 2 9757 4515 Fax: 61 2 9757 2586 Web: www.bioaustralis.com Email: info@bioaustralis.com