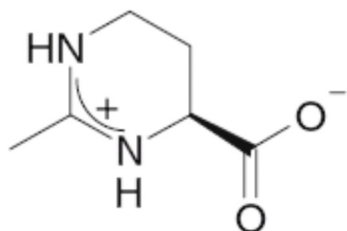


81619 Ectoin

Ectoines (Ectoin and Hydroxyectoin) are used by many halophilic microorganisms (e.g. *Halomonas elongate*, *Marinonoccus marinus*) to protect themselves against the extreme conditions (high salt and temperature) in their natural environment. Ectoines have been shown to stabilize proteins, nucleic acids, membranes and cells. They do not interfere with enzymatic and binding reactions and are highly compatible with cell metabolism. Therefore, Ectoines can be used in a wide range of applications for the protection and stabilization of biological macromolecules and cells.

However, Ectoines can also be found in other microorganisms, such as antibiotics producing "Streptomyces" which protect themselves against the DNA-binding antibiotics.



(S)-2-methyl-1, 4, 5, 6-tetra-hydropyrimidine-4-carboxylic acid

C₆H₁₀O₂N₂

- CAS-Nr. 96702-03-3
- Mw=142.2 g/mol
- source: *Halomonas elongata*
- store at RT
- melting point 280°C
- solubility in water 4.0 mol/l
- solubility in methanol 0.3 mol/l
- stability: pH 1-9

General features of Ectoines:

Colorless, protein-free, animal-free
non toxic

compatible with the metabolism of cells, even at high concentrations (> 1M)
highly soluble in water, zwitterionic, neutral at pH 7.0

Special features/Application of Ectoin:

Inhibition of protein aggregation

Inhibition of inclusion body formation

Fermentation additive (*E. coli*) for the expression of functional recombinant proteins

Improvement of nucleic-acid based enzymatic reactions

Improvement of crystal size and quality in protein crystallization



Working Concentration:

For the protection of proteins Ectoin conc. of 0.1-1M are used, for the protection of membranes and cells concentrations of 0.1-1% (w/v) are recommended.

References:

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3. Wohlfarth, A., et al. J. Gen. Microbiol. 136, 705, (1990)
4. Malin, G. and Lapidot, A. J. Bacteriol. 178, 385, (1996)
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Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

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