

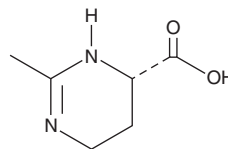
# PRODUCT INFORMATION



## Ectoine

Item No. 31167

**CAS Registry No.:** 96702-03-3  
**Formal Name:** (4S)-3,4,5,6-tetrahydro-2-methyl-4-pyrimidinecarboxylic acid  
**Synonyms:** Ectoin, NSC 614616, Pyrostatin B  
**MF:** C<sub>6</sub>H<sub>10</sub>N<sub>2</sub>O<sub>2</sub>  
**FW:** 142.2  
**Purity:** ≥95%  
**UV/Vis.:** λ<sub>max</sub>: 215 nm  
**Supplied as:** A crystalline solid  
**Storage:** -20°C  
**Stability:** ≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

### Laboratory Procedures

Ectoine is supplied as a crystalline solid. Aqueous solutions of ectoine can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of ectoine in PBS, pH 7.2, is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

### Description

Ectoine is a microbial metabolite that has been found in extremophilic bacteria and has photoprotectant and anti-inflammatory activities.<sup>1,2</sup> It is biosynthesized in bacteria that grow in extreme conditions, such as high temperatures, intensive sun irradiation, and drought, to protect macromolecules against environmental stressors. Ectoine (1 mM) reduces UVA-induced AP-2 activation, ICAM1 expression, and second messenger release in isolated human keratinocytes.<sup>1</sup> *In vivo*, ectoine (100 mg/kg) reduces intestinal crypt damage, edema, and leukocyte infiltration in a mouse model of colitis induced by dextran sulfate (DSS; Item No. 23250).<sup>2</sup>

### References

1. Buenger, J. and Driller, H. Ectoin: An effective natural substance to prevent UVA-induced premature photoaging. *Skin Pharmacol. Physiol.* **17(5)**, 232-237 (2004).
2. Castro-Ochoa, K.F., Vargas-Robles, H., Cháñez Paredes, S., *et al.* Homoectoine protects against colitis by preventing a claudin switch in epithelial tight junctions. *Dig. Dis. Sci.* **64(2)**, 409-420 (2019).

#### WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

#### SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the [complete](#) Safety Data Sheet, which has been sent via email to your institution.

#### WARRANTY AND LIMITATION OF REMEDY

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