PRODUCT INFORMATION

L-(+)-Ergothioneine
Item No. 14905

CAS Registry No.: 497-30-3
Formal Name: (αS)-α-carboxy-2,3-dihydro-N,N,N-trimethyl-2-thioxo-1H-imidazole-4-ethanaminium, inner salt
Synonyms: 2-Mercaptohistidine Betaine, NSC 7175
MF: C₉H₁₅N₃O₂S
FW: 229.3
Purity: ≥98%
UV/Vis.: λₑₓₙ = 218, 265 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

L-(+)-Ergothioneine is supplied as a crystalline solid. L-(+)-Ergothioneine is sparingly soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide.

Aqueous solutions of L-(+)-ergothioneine can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of L-(+)-ergothioneine in PBS, pH 7.2, is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

L-(+)-Ergothioneine is a naturally-occurring amino acid derived from histidine via hercynine. Ergothioneine is a stable antioxidant that scavenges and detoxifies free radicals and oxidants, increases intracellular thiol levels, controls nuclear factor-κB activation, and inhibits inflammatory gene expression. In addition, it inhibits the peroxynitrite-dependent nitration of nitrotyrosine, blocks oxidative DNA damage and cell death, and prevents the formation of xanthine and hypoxanthine. Ergothioneine is transported by the organic cation/carnitine transporter 1, which has been linked with autoimmune diseases, including rheumatoid arthritis and Crohn’s disease.

References