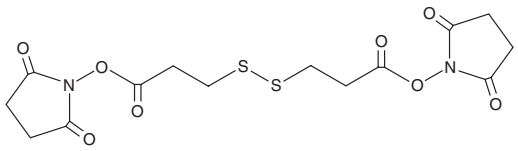
PRODUCT INFORMATION

3,3′-Dithiodipropionic Acid di(N-hydroxysuccinimide ester)

Item No. 33405

CAS Registry No.: 57757-57-0
Formal Name: 1,1′-*bis*(2,5-dioxo-1-pyrrolidinyl) ester 3,3′-dithiobis-propanoic acid
Synonyms: DSP, Lomant's Reagent, NSC 328386
MF: $C_{14}H_{16}N_2O_8S_2$
FW: 404.4
Purity: ≥95%
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

3,3′-Dithiodipropionic acid di(N-hydroxysuccinimide ester) (DSP) is supplied as a crystalline solid. A stock solution may be made by dissolving the DSP in the solvent of choice, which should be purged with an inert gas. DSP is soluble in organic solvents such as DMSO and dimethyl formamide. The solubility of DSP in these solvents is approximately 30 mg/ml.

DSP is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, DSP should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. DSP has a solubility of approximately 0.20 mg/ml in a 1:4 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

DSP is an amine-reactive, cleavable, homobifunctional protein cross-linking reagent.[1-3] It has been used as a molecular ruler to determine protein tertiary and quaternary structure.[2] DSP has also been used as a component of self-assembled monolayers in gold-based biosensors.[3]

References

1. Lomant, A.J. and Fairbanks, G. Chemical probes of extended biological structures: Synthesis and properties of the cleavable protein cross-linking reagent [^{35}S]dithiobis(succinimidyl propionate). *J. Mol. Biol.* **104(1)**, 243-261 (1976).
2. Green, N.S., Reisler, E., and Houk, K.N. Quantitative evaluation of the lengths of homobifunctional protein cross-linking reagents used as molecular rulers. *Protein Sci.* **10(7)**, 1293-1304 (2001).
3. Cabrita, J.F., Abrantes, L.M., and Viana, A.S. *N*-Hydroxysuccinimide-terminated self-assembled monolayers on gold for biomolecules immobilisation. *Electrochimica Acta* **50(10)**, 2117-2124 (2004).

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