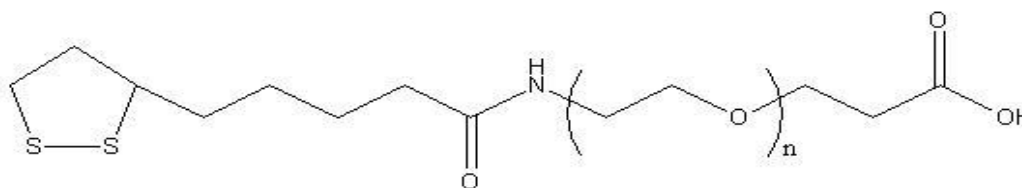


Certificate of Analysis

General properties:

Product Name: Lipoic acid-PEG-COOH
 Molecular Weight: PEG MW:750/1000/2000/3400/5000 Dalton
 Catalog Number: R-1206
 Lot Number: RO162526

Product Structure:



Product Specifications:

| Items | Specification | Results |
|------------------------------------|---|---|
| Appearance | White/Off-white solid or viscous liquid | White/Off-white solid or viscous liquid |
| ¹ H NMR | Identical to the structure | Identical to the structure |
| Substitution of COOH by NMR | >90% | >90% |
| Substitution of Lipoic acid by NMR | >90% | >90% |

Date of Analysis: 2017.09.27

Recommended Retest date: 2018.09.26

Recommended Storage: -20°C

Stability: 1 year

This product is for research use only, Not for human or animal use