

Certificate of Analysis

Cholic acid-d4

5β-cholanic acid-3 α ,7 α ,12 α -triol (2,2,4,4-d4)

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Expiration Date One year from date of receipt

M Lot Number 6902PHC010

Avanti Lot Number 330256P-5MG-C-010

| ANALYSIS | SPECIFICATION | RESULTS |
|-------------------------------------|--|--|
| Physical Examination | Powder : White solid which contains no foreign matter | Pass |
| TLC (85:15 Chloroform: Methanol) | >99% Purity Ninhydrin spray: negative Iodine: one major spot Phosphorus: negative Charring: positive Water dip: one major spot | >99% Purity Ninhydrin spray: negative lodine: one major spot Phosphorus: negative Charring: positive Water dip: one major spot |
| Proton NMR | NMR spectrum consistent with structure | Consistent with structure |
| Carbon NMR | NMR spectrum consistent with structure | Consistent with structure |
| Mass Spectroscopy | [M-H] ⁻ = 411.60 ± 1 amu | [M-H] ⁻ = 411.6 amu |
| Isotopic Purity by Mass Spec | Run and Report | 99.5% No d5 detected |

Approved By:

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