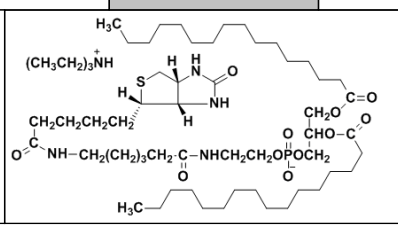


| Certificate of Analysis<br>(C of A) |                                                                                                                                  |                 |                                                                    |
|-------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|-----------------|--------------------------------------------------------------------|
| Name:                               | <b>Biotin-X DHPE</b><br>6-(((Biotinoyl)amino)hexanoyl)-1,2-dihexadecanoyl-sn-glycero-3-phosphoethanolamine triethylammonium salt |                 |                                                                    |
| Catalog Number:                     | 6754                                                                                                                             | Lot:            | 50708                                                              |
| CAS Number:                         | N/A                                                                                                                              | Formula:        | C <sub>59</sub> H <sub>114</sub> N <sub>5</sub> O <sub>11</sub> PS |
| Molecular Weight:                   | 1132.61 (g/mol)                                                                                                                  |                 |                                                                    |
|                                     |                                                                                                                                  |                 |                                                                    |
|                                     | <b>Observed</b>                                                                                                                  | <b>Standard</b> |                                                                    |
| TLC Purity:                         | > 95%                                                                                                                            | ≥ 90%           |                                                                    |
| TLC System:                         | 75:20:5 Chloroform / Methanol / Acetic Acid with Biotin Dip                                                                      |                 |                                                                    |
| Storage:                            | Freeze: Store at -5 to -30°C (F), Protect from moisture (D), Protect from light (L)                                              |                 |                                                                    |
| Production Lot:                     | 15256                                                                                                                            | Release:        | 21-Dec-2015                                                        |
|                                     |                                                                                                                                  | Expiration:     | 21-Dec-2025                                                        |
| Structure:                          |                                                |                 |                                                                    |

This data reflects the accuracy of the analysis of the subject lot  
 For research use only. Not for human use. No animal source.  
 This material is chemically synthesized and manufactured in the USA

**Approved by:** Dianna M Wineinger  
 Analytical Services Manager

**Date:** 21-Dec-2015

**Signature:** 