

Materials List for:

# Enzymatic Synthesis of Epoxidized Metabolites of Docosahexaenoic, Eicosapentaenoic, and Arachidonic Acids

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## Materials

| Name                                                      | Company           | Catalog Number                | Comments                                                      |
|-----------------------------------------------------------|-------------------|-------------------------------|---------------------------------------------------------------|
| Ammonium Bicarbonate                                      | Sigma             | 9830                          | NA                                                            |
| Ampicillin                                                | GoldBio           | A30125                        | NA                                                            |
| Anhydrous magnesium sulfate                               | Fisher Scientific | M65-3                         | NA                                                            |
| Anhydrous methanol                                        | Sigma-Aldrich     | 322515                        | NA                                                            |
| Anhydrous sodium sulfate                                  | Fisher Scientific | S421-500                      | NA                                                            |
| Anhydrous toluene                                         | Sigma-Aldrich     | 244511                        | NA                                                            |
| Arachidonic Acid (AA)                                     | Nu-Chek Prep      | U-71A                         | Air-sensitive.                                                |
| Diethyl Ether                                             | Sigma             | 296082                        | NA                                                            |
| DMSO (molecular biology grade)                            | Sigma-Aldrich     | D8418                         | NA                                                            |
| Docosahexaenoic Acid (DHA)                                | Nu-Chek Prep      | U-84A                         | Air-sensitive.                                                |
| EDTA (ethylenediaminetetraacetic acid)                    | Invitrogen        | 15576028                      | NA                                                            |
| Eicosapentaenoic Acid (EPA)                               | Nu-Chek Prep      | U-99A                         | Air-sensitive.                                                |
| Ethyl acetate                                             | Sigma             | 34858                         | NA                                                            |
| Flash column cartridges 25, 40, 4, 12 g sizes             | Fisher Scientific | 145170203, 145154064, 5170200 | Alternatively, conventional column chromatography can be used |
| Formic acid (HPLC Grade)                                  | J.T. Baker        | 0128-01                       | NA                                                            |
| Glycerol                                                  | Sigma             | G7757                         | NA                                                            |
| Hexanes                                                   | VWR               | BDH24575                      | NA                                                            |
| LB Broth                                                  | Sigma             | L3022                         | NA                                                            |
| Lithium hydroxide                                         | Sigma-Aldrich     | 442410                        | NA                                                            |
| Magnesium chloride                                        | Fisher Scientific | 2444-01                       | NA                                                            |
| Methanol (HPLC grade)                                     | Sigma-Aldrich     | 34860-41-R                    | NA                                                            |
| NADPH Tetrasodium Salt                                    | Sigma-Aldrich     | 481973                        | Air-sensitive.                                                |
| Oxalic acid                                               | Sigma-Aldrich     | 194131                        | NA                                                            |
| pBS-BM3 transfected DH5α E. coli                          | NA                | NA                            | NA                                                            |
| PMSF (phenylmethanesulfonyl fluoride)                     | Sigma             | P7626                         | Toxic!                                                        |
| Potassium Permanganate                                    | Sigma-Aldrich     | 223468                        | For TLC staining.                                             |
| Potassium phosphate dibasic                               | Sigma             | 795496                        | NA                                                            |
| Potassium phosphate monobasic                             | Sigma             | 795488                        | NA                                                            |
| Q Sepharose Fast Flow resin (GE Healthcare life sciences) | Fisher Scientific | 17-0515-01                    | For anion exchange purification of enzyme                     |
| Sodium Chloride                                           | Sigma             | 71376                         | NA                                                            |
| Tetrahydrofuran, anhydrous                                | Sigma-Aldrich     | 186562                        | NA                                                            |

|                                                                                                                                                                                   |                                         |        |             |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------|--------|-------------|
| TMS-Diazomethane (2.0 M in hexanes)                                                                                                                                               | Sigma-Aldrich                           | 362832 | Very toxic. |
| Tris-HCl                                                                                                                                                                          | GoldBio                                 | T-400  | NA          |
| <b>Also necessary:</b>                                                                                                                                                            |                                         |        |             |
| Automatic flash purification system (we used a Buchi Reveleris X2)                                                                                                                | Buchi                                   |        |             |
| C18 HPLC column (Zorbax Eclipse XDB-C18)                                                                                                                                          | Agilent                                 |        |             |
| Centrifuge capable of 10,000 x g                                                                                                                                                  |                                         |        |             |
| Chiral HPLC Column (Lux cellulose-3), 250 x 4.6 mm, 5 $\mu$ M, 1000 Å)                                                                                                            | Phenomenex                              |        |             |
| General chemistry supplies: a 2 L separatory funnel, beakers and Erlenmeyer flasks with 1000-2000 L capacity, 20 mL vials, HPLC vials, small round-bottomed flasks and stir-bars. |                                         |        |             |
| HPLC (we use a Shimadzu Prominence LC-20AT analytical pump and SPD-20A UV-vis detector)                                                                                           | Shimadzu                                |        |             |
| Nanodrop 2000 Spectrophotometer                                                                                                                                                   | Thermo-Fisher Scientific                |        |             |
| NMR                                                                                                                                                                               | NMR: Agilent DD2 spectrometer (500 MHz) |        |             |
| Rotary evaporator                                                                                                                                                                 | Buchi                                   |        |             |
| Sonic dismembrator or ultrasonic homogenizer                                                                                                                                      | Cole-Parmer                             |        |             |