

**Effect of omega-3 polyunsaturated fatty acids on the cytoskeleton:  
an open-label intervention study**

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**Additional file**

2 Additional Tables (Table A1 and A2)

**Table A1: Differential expressed genes in normolipidemic subjects after twelve week of supplementation with fish oil or placebo. Gene highlighted in red were up-regulated, genes highlighted in green were down-regulated, genes written in italics were regulated in both intervention groups (fish oil and placebo) with in opposite directions.**

| Intervention group | Gene name                                                                   | Gen-ID | p-value |
|--------------------|-----------------------------------------------------------------------------|--------|---------|
| Fish oil           | Beta-arrestin-1 (Arrestin beta-1)                                           | 408    | < 0.01  |
|                    | Myosin light chain kinase, smooth muscle (MLCK)                             | 4638   | < 0.05  |
|                    | Wiskott-Aldrich syndrome protein family member 2 (WAVE-2)                   | 10163  | < 0.01  |
|                    | Rho GTPase-activating protein 4                                             | 393    | < 0.001 |
|                    | GRIP1-associated protein 1 (GRASP-1)                                        | 56850  | < 0.001 |
|                    | <i>Myosin-I<math>\alpha</math></i> ( <i>Myosin-I<math>\epsilon</math></i> ) | 4542   | < 0.01  |
|                    | <i>Centrosome and spindle pole-associated protein 1</i>                     | 79848  | 0.05    |
| Placebo            | Calmodulin (CaM)                                                            | 808    | < 0.01  |
|                    | cofilin 1 (non-muscle)                                                      | 1072   | < 0.01  |
|                    | <i>Myosin-I<math>\alpha</math></i> ( <i>Myosin-I<math>\epsilon</math></i> ) | 4542   | < 0.05  |
|                    | <i>Centrosome and spindle pole-associated protein 1</i>                     | 79848  | < 0.01  |

**Table A2: Differential expressed genes in dyslipidemic subjects after twelve week of supplementation with fish oil or placebo. Gene highlighted in red were up-regulated, genes highlighted in green were down-regulated, genes written in italics were regulated in both intervention groups (fish oil and placebo) with in opposite directions.**

| Intervention group | Gene name                                                   | Gen-ID | p-value |
|--------------------|-------------------------------------------------------------|--------|---------|
| Fish oil           | Beta-2-syntrophin                                           | 6645   | < 0.05  |
|                    | Syndecan-3 (SYND3)                                          | 9672   | < 0.05  |
|                    | Testican-2 Precursor                                        | 9806   | < 0.05  |
|                    | Nischarin                                                   | 11188  | < 0.05  |
|                    | stathmin-like 3                                             | 50861  | < 0.05  |
|                    | Myosin-7B                                                   | 57644  | < 0.05  |
|                    | Myosin light chain 6B                                       | 140465 | < 0.05  |
|                    | Muscle, skeletal receptor tyrosine protein kinase Precursor | 4593   | < 0.05  |
|                    | Myosin-IXb                                                  | 4650   | < 0.05  |
|                    | Muskelin                                                    | 4289   | < 0.05  |
|                    | Myosin regulatory light chain 2                             | 4633   | < 0.01  |
|                    | Myosin light chain kinase, smooth muscle (MLCK)             | 4638   | < 0.01  |
|                    | Moesin (Membrane-organizing extension spike protein)        | 4478   | < 0.05  |
|                    | Myosin-VIIb                                                 | 4648   | < 0.05  |
|                    | Supervillin                                                 | 6840   | < 0.05  |
|                    | Dynein light chain 1, axonemal                              | 83544  | < 0.05  |
|                    | Syndecan-3 (SYND3)                                          | 9672   | < 0.05  |
|                    | Integrin alpha-3 Precursor                                  | 3675   | < 0.05  |
|                    | Triple functional domain protein                            | 7204   | < 0.05  |
|                    | Cadherin-5 Precursor                                        | 1003   | < 0.001 |
|                    | Kinetochores-associated protein NSL1 homolog                | 25936  | < 0.001 |
|                    | Ankyrin repeat domain-containing protein 46                 | 157567 | < 0.01  |

|         |                                                                                 |        |         |
|---------|---------------------------------------------------------------------------------|--------|---------|
|         | Dedicator of cytokinesis protein 9                                              | 23348  | < 0.05  |
|         | Protein phosphatase 1 regulatory subunit 12B                                    | 4660   | < 0.05  |
|         | Keratinocyte growth factor Precursor                                            | 2252   | < 0.01  |
|         | Tensin-1                                                                        | 7145   | < 0.01  |
|         | Myomegalin                                                                      | 9659   | < 0.001 |
|         | Agrin Precursor                                                                 | 375790 | < 0.05  |
|         | Transcriptional enhancer factor TEF-3                                           | 7004   | < 0.05  |
|         | A-kinase anchor protein 13                                                      | 11214  | < 0.05  |
|         | Serine/threonine-protein kinase MRCK beta                                       | 9578   | < 0.05  |
|         | F-actin-capping protein subunit beta (CapZ beta)                                | 832    | < 0.01  |
|         | Beta-arrestin-1                                                                 | 408    | < 0.05  |
|         | Beta-arrestin-2                                                                 | 409    | < 0.01  |
|         | Actin-like protein 7C                                                           | 284382 | < 0.001 |
|         | Rho GTPase-activating protein 25                                                | 9938   | < 0.01  |
|         | Rho-related BTB domain-containing protein 3                                     | 22836  | < 0.05  |
|         | Rho-related BTB domain-containing protein 2                                     | 23221  | < 0.05  |
|         | Wiskott-Aldrich syndrome protein family member 3 (WAVE-3)                       | 10810  | < 0.05  |
|         | Cdc42 effector protein 5                                                        | 148170 | < 0.05  |
|         | Alpha-actinin-1                                                                 | 87     | < 0.05  |
|         | <i>Wiskott-Aldrich syndrome protein</i>                                         | 7454   | < 0.05  |
|         | <i>Actin-related protein 2/3 complex subunit 3</i>                              | 10094  | < 0.05  |
|         | <i>Protein FAM65B</i>                                                           | 9750   | < 0.01  |
|         | <i>Protein Hook homolog 3 (hHK3)</i>                                            | 84376  | < 0.05  |
|         | <i>Immunoglobulin-like and fibronectin type III domain-containing protein 1</i> | 91156  | < 0.05  |
| Placebo | Vimentin                                                                        | 7431   | < 0.001 |
|         | BET1 homolog                                                                    | 10282  | < 0.01  |
|         | Cyclic AMP-dependent transcription factor ATF-6 alpha                           | 22926  | < 0.001 |
|         | Putative myosin light chain kinase 3                                            | 91807  | < 0.01  |

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|---------------------------------------------------------------------------------|--------|---------|
| PAS domain-containing protein 1                                                 | 139135 | < 0.001 |
| <i>Wiskott-Aldrich syndrome protein (WASp)</i>                                  | 7454   | < 0.05  |
| <i>Actin-related protein 2/3 complex subunit 3</i>                              | 10094  | < 0.01  |
| <i>Protein FAM65B</i>                                                           | 9750   | < 0.001 |
| <i>Protein Hook homolog 3 (hHK3)</i>                                            | 84376  | < 0.05  |
| <i>Immunoglobulin-like and fibronectin type III domain-containing protein 1</i> | 91156  | < 0.05  |