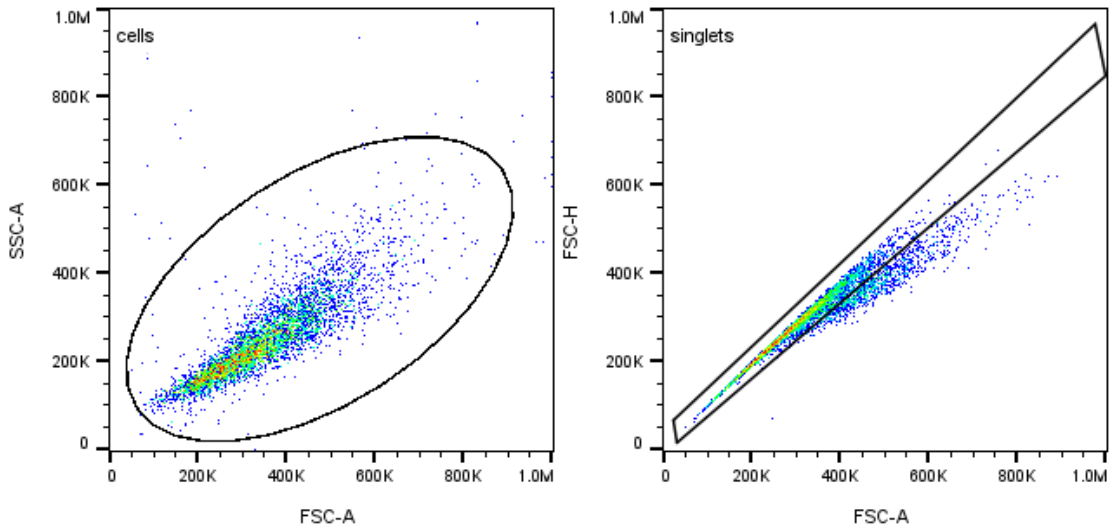


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Supplementary Figure 1. Gating strategy for flow cytometry data

Supplementary Table 1. Identification of cardiolipin molecular species in cells and tissues

Supplementary Table 2. Identification of mono-lyso-cardiolipin molecular species in cells and tissues



Supplementary Figure 1: **Gating strategy for flow cytometry data.**

Representative plots exemplifying the gating strategy employed to identify and exclude cell aggregates and debris from analysis based on scatter measurements. For all experiments, a "cells" gate was applied (*Left panel*) to distinguish between cells and debris by comparing side scatter area (SSC-A) and forward scatter area (FSC-A) of objects. Similarly, a "singlets" gate (*right panel*) was utilized to exclude cell aggregates by comparing forward scatter-height (FSC-H) and FSC-A. The demarcated regions in each panel indicate cells that were included in the analysis.

Supplementary Table 1. Identification of cardiolipin molecular species in cells and tissues

Exact m/z	CN:DB	C2C12 cell (WT)	C2C12 cells (TAZ KO)
1317.8867	62:3	14:0/16:1/16:1/16:1	14:0/18:1/14:0/16:1
1319.9024	62:2	14:0/16:1/14:0/18:1	14:0/16:1/14:0/18:1; 14:1/16:0/14:0/18:1
1321.9180	62:1		14:0/16:0/14:0/18:1; 14:0/16:0/16:0/16:1
1343.9024	64:4	14:0/ <u>18:2</u> /14:0/ <u>18:2</u> ; 16:1/16:1/16:1/16:1	16:1/16:1/16:1/16:1
1345.9180	64:3	14:0/ <u>18:2</u> /14:0/18:1; 16:0/16:1/16:1/16:1; 14:0/18:1/16:1/16:1	14:0/ <u>18:2</u> /14:0/18:1; 14:0/16:0/16:0/ <u>18:3</u>
1347.9337	64:2	14:0/18:1/14:0/18:1; 16:0/16:1/16:0/16:1	14:0/18:1/14:0/18:1; 16:0/16:1/16:0/16:1
1349.9493	64:1		16:0/16:1/16:0/16:0
1369.9180	66:5	16:1/16:1/16:1/ <u>18:2</u>	14:0/16:1/16:0/ <u>20:4</u>
1371.9337	66:4	16:0/16:1/16:1/ <u>18:2</u> ; 16:1/16:1/16:1/18:1	16:1/16:1/16:1/18:1; 16:0/16:1/16:1/ <u>18:2</u>
1373.9493	66:3	16:0/16:1/16:1/18:1; 16:0/16:1/16:0/ <u>18:2</u> ; 14:0/18:1/16:1/18:1	14:0/16:1/18:1/18:1; 14:0/18:1/16:0/ <u>18:2</u> ; 14:1/16:0/18:1/18:1
1375.9650	66:2	16:0/16:1/16:0/18:1; 14:0/18:1/16:0/18:1	14:0/18:1/16:0/18:1; 16:0/18:1/16:0/16:1
1377.9806	66:1		16:0/18:1/16:0/16:0
1395.9337	68:6	16:1/18:2/16:1/ <u>18:2</u> ; 16:1/ <u>18:2</u> /16:0/ <u>18:3</u> ; 16:1/18:1/16:1/18:3	16:0/16:1/16:1/ <u>20:4</u>
1397.9493	68:5	16:0/ <u>18:2</u> /16:1/ <u>18:2</u> ; 16:0/18:1/16:1/ <u>18:3</u> ; 14:0/18:1/18:2/ <u>18:2</u>	16:0/16:1/16:0/ <u>20:4</u> ; 14:0/18:1/16:0/ <u>20:4</u>
1399.9650	68:4	16:1/18:1/16:0/ <u>18:2</u> ; 16:0/ <u>18:2</u> /16:0/ <u>18:2</u> ; 14:1/18:1/18:1/18:1	16:0/16:0/16:0/ <u>20:4</u> ; 14:0/18:1/18:1/ <u>18:2</u> ; 16:0/ <u>18:2</u> /16:0/ <u>18:2</u> ; 16:1/18:1/16:1/18:1
1401.9806	68:3	16:0/18:1/16:0/ <u>18:2</u> ; 16:1/18:1/16:0/18:1	16:0/16:1/16:0/ <u>20:2</u> ; 16:0/18:1/16:0/ <u>18:2</u> ; 14:0/18:1/18:1/18:1
1403.9963	68:2	16:0/18:1/16:0/18:1	16:0/18:1/16:0/18:1
1421.9493	70:7	16:1/ <u>18:2</u> / <u>18:2</u> / <u>18:2</u> ; 16:0/20:4/16:1/ <u>18:2</u> ; 16:1/ <u>20:4</u> /16:1/18:1	
1423.9650	70:6	16:1/18:1/18:1/ <u>18:3</u> ; 16:0/ <u>20:4</u> /16:0/ <u>18:2</u> ; 16:1/ <u>20:3</u> /16:1/18:1	16:0/16:0/18:1/ <u>20:5</u> ; 16:0/16:1/18:1/ <u>20:4</u>
1425.9806	70:5	16:0/ <u>18:2</u> /18:1/ <u>18:2</u> ; 16:1/18:1/18:1/ <u>18:2</u>	16:0/18:1/16:0/ <u>20:4</u> ; 16:1/18:1/18:1/ <u>18:2</u>
1427.9963	70:4	16:1/18:1/18:1/18:1; 16:0/18:1/18:1/ <u>18:2</u>	16:0/18:0/16:0/ <u>20:4</u> ; 16:0/18:0/16:1/ <u>20:3</u> ; 16:0/ <u>18:2</u> /18:0/ <u>18:2</u> ; 16:1/18:1/18:1/18:1
1430.0119	70:3		16:0/18:1/18:0/ <u>18:2</u>
1432.0276	70:2		16:0/18:1/18:0/18:1; 16:0/ <u>18:2</u> /18:0/18:0; 14:0/18:0/18:0/ <u>20:2</u>
1447.9650	72:8	<u>18:2</u> / <u>18:2</u> / <u>18:2</u> / <u>18:2</u> ; 18:1/ <u>18:2</u> /16:1/ <u>20:4</u> ; <u>18:2</u> / <u>18:2</u> /16:1/ <u>20:3</u>	
1449.9806	72:7	18:1/ <u>18:2</u> / <u>18:2</u> / <u>18:2</u> ; 18:1/18:1/16:1/ <u>20:4</u> ; 18:1/ <u>18:2</u> /16:1/ <u>20:3</u>	18:1/18:1/16:1/ <u>20:4</u> ; 18:1/ <u>18:2</u> / <u>18:2</u> / <u>18:2</u> ; 18:1/ <u>18:2</u> /16:0/ <u>20:4</u>
1451.9963	72:6	18:1/ <u>18:2</u> /18:1/ <u>18:2</u> ; 18:1/18:1/16:0/ <u>20:4</u> ; 18:1/18:1/16:1/ <u>20:3</u> ; 18:1/18:2/16:1/ <u>20:2</u>	18:1/ <u>18:2</u> /18:1/ <u>18:2</u> ; 18:1/18:1/16:0/ <u>20:4</u> ; 18:0/18:1/16:1/ <u>20:4</u> ; 18:0/18:2/16:0/ <u>20:4</u>
1454.0119	72:5	18:1/18:1/18:1/ <u>18:2</u> ; 18:1/18:1/16:0/ <u>20:3</u>	18:1/18:1/18:1/ <u>18:2</u> ; 18:0/ <u>18:2</u> /18:1/ <u>18:2</u> ; 18:0/18:0/16:1/ <u>20:4</u> ; 18:0/18:1/16:0/ <u>20:4</u> ; 18:1/18:1/16:1/ <u>20:2</u>
1456.0276	72:4	18:0/18:1/18:1/ <u>18:2</u> ; 18:1/18:1/18:1/18:1	18:1/18:1/18:1/18:1; 18:0/18:0/16:0/ <u>20:4</u> ; 18:0/ <u>18:2</u> /18:1/18:1
1471.9650	74:10		<u>18:2</u> / <u>18:2</u> / <u>18:2</u> / <u>20:4</u>
1473.9806	74:9	<u>18:2</u> / <u>18:2</u> /18:1/ <u>20:4</u> ; <u>18:2</u> / <u>18:2</u> / <u>18:2</u> / <u>20:3</u> ; 18:1/ <u>18:2</u> /16:0/ <u>22:6</u> ; 18:1/18:1/16:1/ <u>22:6</u>	18:1/ <u>18:2</u> / <u>18:2</u> / <u>20:4</u> ; 16:1/ <u>22:6</u> /18:1/18:1;
1475.9963	74:8	18:1/ <u>18:2</u> /18:1/ <u>20:4</u> ; <u>18:2</u> / <u>18:2</u> /18:1/ <u>20:3</u> ; 18:1/ <u>20:3</u> /16:1/ <u>20:3</u> ; 18:1/ <u>20:3</u> /16:0/ <u>20:4</u>	18:1/ <u>18:2</u> /18:1/ <u>20:4</u> ; 18:0/ <u>20:4</u> /16:0/ <u>20:4</u> ; 18:1/18:1/16:0/ <u>22:6</u> ; 18:1/18:1/16:1/ <u>22:5</u>
1478.0019	74:7	18:1/18:1/18:1/ <u>20:4</u> ; 18:1/ <u>18:2</u> /18:1/ <u>20:3</u> ; 18:1/ <u>18:2</u> / <u>18:2</u> / <u>20:2</u> ; 18:1/ <u>18:2</u> /18:0/ <u>20:4</u> ; 18:0/ <u>18:2</u> /16:0/ <u>22:5</u>	18:1/18:1/18:1/ <u>20:4</u>
1480.0276	74:6		18:1/18:1/18:0/ <u>20:4</u>
1502.0119	76:9	18:1/ <u>20:3</u> /18:1/ <u>20:4</u> ; 18:1/ <u>20:3</u> / <u>18:2</u> / <u>20:3</u>	

CN- carbon number; DB-double bond number

Extended Data Table 1. (continued)

Exact m/z	CN:DB	Mouse heart (WT)	Mouse Heart (TAZ KD)
1369.9180	66:5		14:1/ <u>18:2</u> / <u>16:0</u> / <u>18:2</u> ; 14:1/ <u>18:1</u> / <u>16:0</u> / <u>18:3</u>
1371.9337	66:4		14:0/ <u>18:0</u> / <u>14:0</u> / <u>20:4</u> ; 14:0/ <u>18:2</u> / <u>16:0</u> / <u>18:2</u>
1373.9493	66:3		16:0/ <u>16:1</u> / <u>16:1</u> / <u>18:1</u>
1375.9650	66:2		14:0/ <u>16:0</u> / <u>18:1</u> / <u>18:1</u> ; 16:0/ <u>16:0</u> / <u>16:1</u> / <u>18:1</u>
1377.9806	66:1		16:0/ <u>18:0</u> / <u>14:0</u> / <u>18:1</u>
1395.9337	68:6		14:0/ <u>18:2</u> / <u>18:2</u> / <u>18:2</u>
1397.8896	68:5		14:0/ <u>18:1</u> / <u>18:2</u> / <u>18:2</u>
1399.9650	68:4		16:0/ <u>16:1</u> / <u>18:1</u> / <u>18:2</u> ; 16:0/ <u>16:0</u> / <u>18:2</u> / <u>18:2</u>
1401.9806	68:3		16:0/ <u>16:0</u> / <u>18:1</u> / <u>18:2</u>
1403.9963	68:2		16:0/ <u>16:0</u> / <u>18:1</u> / <u>18:1</u>
1419.9337	70:8	<u>16:2</u> / <u>18:2</u> / <u>18:2</u> / <u>18:2</u>	
1421.9493	70:7	<u>16:1</u> / <u>18:2</u> / <u>18:2</u> / <u>18:2</u>	<u>16:1</u> / <u>18:2</u> / <u>18:2</u> / <u>18:2</u>
1423.9650	70:6	<u>16:0</u> / <u>18:2</u> / <u>18:2</u> / <u>18:2</u>	<u>16:0</u> / <u>18:1</u> / <u>18:2</u> / <u>18:3</u> ; <u>16:1</u> / <u>18:1</u> / <u>18:1</u> / <u>18:3</u> ; <u>16:1</u> / <u>18:2</u> / <u>18:1</u> / <u>18:2</u>
1425.9806	70:5	<u>16:0</u> / <u>18:1</u> / <u>18:2</u> / <u>18:2</u>	<u>16:0</u> / <u>18:1</u> / <u>18:2</u> / <u>18:2</u> ; <u>16:0</u> / <u>18:1</u> / <u>18:1</u> / <u>18:3</u> ; <u>16:1</u> / <u>18:1</u> / <u>18:1</u> / <u>18:2</u>
1427.9963	70:4		<u>16:0</u> / <u>18:2</u> / <u>18:1</u> / <u>18:1</u> ; <u>16:1</u> / <u>18:1</u> / <u>18:0</u> / <u>18:2</u>
1430.0119	70:3		<u>16:0</u> / <u>18:3</u> / <u>18:0</u> / <u>18:0</u> ; <u>16:0</u> / <u>18:0</u> / <u>18:1</u> / <u>18:2</u> ; <u>16:0</u> / <u>18:1</u> / <u>18:1</u> / <u>18:1</u>
1445.9493	72:9	<u>18:2</u> / <u>18:2</u> / <u>18:2</u> / <u>18:3</u>	<u>18:2</u> / <u>18:2</u> / <u>18:2</u> / <u>18:3</u>
1447.9650	72:8	<u>18:2</u> / <u>18:2</u> / <u>18:2</u> / <u>18:2</u>	<u>18:2</u> / <u>18:2</u> / <u>18:2</u> / <u>18:2</u> ; <u>18:1</u> / <u>18:2</u> / <u>18:2</u> / <u>18:3</u>
1449.9806	72:7	<u>18:1</u> / <u>18:2</u> / <u>18:2</u> / <u>18:2</u>	
1451.9963	72:6	<u>18:1</u> / <u>18:1</u> / <u>18:2</u> / <u>18:2</u>	<u>18:1</u> / <u>18:1</u> / <u>18:1</u> / <u>18:3</u> ; <u>18:1</u> / <u>18:2</u> / <u>18:1</u> / <u>18:2</u>
1454.0119	72:5	<u>18:1</u> / <u>18:1</u> / <u>18:1</u> / <u>18:2</u>	<u>18:1</u> / <u>18:1</u> / <u>18:1</u> / <u>18:2</u>
1456.0276	72:4		<u>18:1</u> / <u>18:1</u> / <u>18:1</u> / <u>18:1</u> ; <u>16:0</u> / <u>20:2</u> / <u>18:1</u> / <u>18:1</u>
1469.9493	74:11	<u>18:2</u> / <u>18:2</u> / <u>16:1</u> / <u>22:6</u>	
1471.9963	74:10	<u>18:2</u> / <u>18:2</u> / <u>18:2</u> / <u>20:4</u>	<u>18:2</u> / <u>18:2</u> / <u>18:2</u> / <u>20:4</u>
1473.9806	74:9	<u>18:1</u> / <u>18:2</u> / <u>18:2</u> / <u>20:4</u> ; <u>18:2</u> / <u>18:2</u> / <u>18:2</u> / <u>20:3</u>	<u>18:1</u> / <u>18:2</u> / <u>18:2</u> / <u>20:4</u>
1475.9963	74:8	<u>18:1</u> / <u>18:2</u> / <u>18:2</u> / <u>20:3</u> ; <u>18:2</u> / <u>18:2</u> / <u>18:2</u> / <u>20:2</u>	<u>18:1</u> / <u>18:2</u> / <u>18:3</u> / <u>20:2</u>
1478.0119	74:7	<u>18:1</u> / <u>18:2</u> / <u>18:2</u> / <u>20:2</u>	<u>18:2</u> / <u>18:2</u> / <u>18:1</u> / <u>20:2</u> ; <u>18:2</u> / <u>18:2</u> / <u>18:0</u> / <u>20:3</u> ; <u>18:1</u> / <u>18:1</u> / <u>18:2</u> / <u>20:3</u>
1480.0276	74:6	<u>18:1</u> / <u>18:2</u> / <u>18:1</u> / <u>20:2</u>	<u>18:1</u> / <u>18:2</u> / <u>18:1</u> / <u>20:2</u>
1495.9650	76:12	<u>18:2</u> / <u>18:2</u> / <u>18:2</u> / <u>22:6</u>	<u>18:2</u> / <u>18:2</u> / <u>18:2</u> / <u>22:6</u>
1497.9806	76:11	<u>18:2</u> / <u>18:2</u> / <u>18:1</u> / <u>22:6</u>	<u>18:2</u> / <u>18:2</u> / <u>18:1</u> / <u>22:6</u>
1499.9963	76:10	<u>18:1</u> / <u>18:2</u> / <u>18:2</u> / <u>22:5</u>	<u>18:1</u> / <u>20:4</u> / <u>18:1</u> / <u>20:4</u> ; <u>18:1</u> / <u>18:2</u> / <u>18:2</u> / <u>22:5</u>
1502.0119	76:9	<u>18:2</u> / <u>18:2</u> / <u>20:3</u> / <u>20:2</u>	<u>18:2</u> / <u>18:2</u> / <u>18:3</u> / <u>20:2</u>
1504.0276	76:8		<u>18:0</u> / <u>18:2</u> / <u>18:0</u> / <u>22:6</u> ; <u>18:0</u> / <u>20:4</u> / <u>18:0</u> / <u>20:4</u>

CN- carbon number; DB-double bond number

Supplementary Table 1. (continued)

Exact m/z	CN:DB	Human lymphocytes (Control)	Human lymphocytes (Barth syndrome)
1371.9337	66:4	14:0/16:1/18:1/ <u>18:2</u>	12:0/18:1/18:1/ <u>18:2</u> ; 14:0/16:1/18:1/ <u>18:2</u> ; 16:0/16:1/16:1/ <u>18:2</u> ; 16:0/16:1/16:0/ <u>18:3</u>
1373.9493	66:3	14:0/16:1/18:1/18:1	12:0/18:1/18:1/18:1; 14:0/16:1/18:1/18:1; 16:0/16:1/16:1/18:1; 16:0/16:1/16:0/ <u>18:2</u>
1375.9650	66:2		14:0/16:0/18:1/18:1; 16:0/16:0/16:1/18:1
1387.9650	67:3		16:0/16:1/17:1/18:1
1393.9180	68:7	14:1/ <u>18:2/18:2/18:2</u>	
1395.9337	68:6	14:0/18:2/18:2/18:2; 16:1/16:1/18:2/18:2; 14:0/16:1/18:2/20:3	14:0/18:2/18:2/18:2; 14:1/18:1/18:2/18:2; 16:1/18:2/16:1/18:2
1397.9493	68:5	16:1/16:1/18:1/ <u>18:2</u>	14:0/18:1/18:2/18:2; 14:1/18:1/18:1/18:2; 16:1/16:1/18:1/18:2; 16:0/16:1/18:1/ <u>18:3</u>
1399.9650	68:4	14:0/18:2/18:1/18:1; 16:1/16:1/18:1/18:1	14:0/18:2/18:1/18:1; 14:1/18:1/18:1/18:1; 16:0/16:1/18:1/18:2; 16:0/16:0/18:2/18:2; 16:0/16:0/18:1/18:3; 16:0/16:0/16:0/20:4
1401.9806	68:3		14:0/18:2/18:0/18:1; 16:0/16:1/18:1/18:1; 16:0/16:1/18:0/18:2
1403.9963	68:2		14:0/18:0/18:1/18:1; 14:0/18:0/18:0/18:2; 16:0/18:1/16:0/18:1; 16:0/16:0/18:0/18:2
1421.9493	70:7	16:1/18:2/18:2/18:2; 14:0/18:2/18:2/20:3	14:0/18:1/18:2/20:4; 14:1/18:1/18:1/20:4; 16:0/16:1/18:2/20:4; 16:0/18:2/18:2/18:3; 16:1/18:2/18:2/18:2
1423.9650	70:6	16:1/18:2/18:1/18:2; 14:0/18:1/18:2/20:3	14:0/18:1/18:1/20:4; 16:0/16:1/18:1/20:4; 16:0/18:1/18:2/18:3; 16:1/18:1/18:1/18:3; 16:0/18:2/18:2/18:2; 16:1/18:2/18:1/18:2
1425.9806	70:5	16:0/18:1/18:2/18:2; 16:1/18:1/18:1/18:2	16:0/18:1/18:2/18:2; 16:0/18:1/18:1/18:3; 16:1/18:1/18:1/18:2
1427.9963	70:4	16:1/18:1/18:1/18:1	16:0/18:2/18:1/18:1; 16:1/18:1/18:1/18:1; 16:1/18:0/18:1/18:2
1435.9650	71:7	16:1/17:1/18:2/20:3	16:0/17:1/18:2/20:4
1437.9806	71:6	16:1/17:1/18:1/20:3	
1439.9963	71:5	16:0/17:1/18:1/20:3	
1442.0119	71:4	16:0/17:1/18:1/20:2	
1445.9493	72:9	<u>18:2/18:2/18:2/18:3</u>	
1447.9650	72:8	<u>18:2/18:2/18:2/18:2</u>	<u>18:2/18:2/18:2/18:2</u> ; <u>18:2/18:2/16:0/20:4</u> ; 18:1/18:3/16:0/20:4
1449.9806	72:7	18:1/18:2/18:2/18:2; 18:1/18:1/16:1/20:4	18:1/18:2/18:1/18:3; 18:1/18:2/18:2/18:2; 18:1/18:1/16:1/20:4; 18:1/18:2/16:0/20:4
1451.9963	72:6	18:1/18:1/18:2/18:2; 18:1/18:1/16:1/20:3	18:1/18:1/18:2/18:2; 18:1/18:1/18:1/18:3; 18:1/18:1/16:0/20:4
1454.0119	72:5	18:1/18:1/18:1/18:2; 18:1/18:1/16:1/20:2	18:1/18:1/18:1/18:2; 18:1/18:1/16:0/20:3
1456.0276	72:4	18:1/18:1/18:1/18:1	18:1/18:1/18:1/18:1; 18:2/18:2/18:0/18:0
1471.9650	74:10	16:1/18:1/18:2/22:6; 16:1/20:4/18:1/20:4	16:1/20:4/18:1/20:4
1473.9806	74:9	16:1/18:1/18:2/22:5; 18:2/18:2/18:1/20:4	18:1/18:2/16:0/22:6; 16:0/20:4/18:1/20:4
1475.9963	74:8	<u>18:2/18:2/18:1/20:3</u> ; 18:1/18:2/18:1/20:4	18:0/18:2/16:0/22:6
1478.0019	74:7	18:1/18:1/18:1/20:4; 18:1/18:2/18:1/20:3	18:1/18:1/18:1/20:4
1480.0276	74:6	18:0/18:0/16:0/22:6; 18:1/18:1/18:0/20:4	18:0/18:0/16:0/22:6; 18:1/18:1/18:0/20:4
1497.9806	76:11	<u>18:2/18:2/18:1/22:6</u> ; <u>18:2/18:2/20:4/20:3</u>	16:0/22:5/18:2/20:4; 16:0/22:6/18:1/20:4; 18:1/18:3/20:4/20:3
1499.9963	76:10	<u>18:2/18:2/18:1/22:5</u> ; 18:1/18:2/20:4/20:3	
1502.0119	76:9	16:1/22:5/18:0/20:4; 18:1/18:2/20:3/20:3	16:0/22:5/18:0/20:4; 16:0/22:6/18:1/20:2; <u>18:2/18:2/18:0/22:5</u> ; 18:1/18:2/20:3/20:3
1504.0276	76:8	18:1/18:1/18:1/22:5; 18:1/18:0/20:4/20:3	18:0/20:4/18:0/20:4; 18:1/18:1/18:1/22:5; 18:0/20:4/18:1/20:3
1506.0432	76:7	18:1/18:1/18:1/22:4; 18:0/20:3/18:0/20:4	
1528.0276	78:10	18:0/20:4/18:0/22:6; 16:0/22:4/18:0/22:6	

CN- carbon number; DB-double bond number

Supplementary Table 1. (continued)

Exact m/z	CN:DB	Human heart tissue (Control)	Human heart tissue (Barth syndrome)
1371.9337	66:4		12:0/18:1/18:1/18:2; 14:0/16:1/18:1/18:2; 16:0/16:1/16:1/18:2; 16:0/16:1/16:0/18:3
1373.9493	66:3		12:0/18:1/18:1/18:1; 14:0/16:1/18:1/18:1; 16:0/16:1/16:1/18:1; 16:0/16:1/16:0/18:2
1375.9650	66:2		14:0/16:0/18:1/18:1; 16:0/16:0/16:1/18:1
1393.9180	68:7	14:1/18:2/18:2/18:2	
1395.9337	68:6	14:0/18:2/18:2/18:2; 16:1/18:2/16:1/18:2	14:0/18:2/18:2/18:2; 14:1/18:1/18:2/18:2; 16:1/18:2/16:1/18:2
1397.8896	68:5		14:0/18:1/18:2/18:2; 14:1/18:1/18:1/18:2; 16:1/16:1/18:1/18:2; 16:0/16:1/18:1/18:3
1399.9650	68:4	14:0/18:1/18:1/18:2; 16:0/16:1/18:1/18:2; 16:0/16:0/18:2/18:2	14:0/18:1/18:1/18:2; 14:1/18:1/18:1/18:1; 16:0/16:1/18:1/18:2; 16:0/16:0/18:2/18:2; 16:0/16:0/18:1/18:3; 16:0/16:0/16:0/20:4
1401.9806	68:3		14:0/18:2/18:0/18:1; 16:0/16:1/18:1/18:1; 16:0/16:1/18:0/18:2
1403.9963	68:2	16:0/18:1/16:0/18:1	14:0/18:0/18:1/18:1; 14:0/18:0/18:0/18:2; 16:0/18:1/16:0/18:1; 16:0/16:0/18:0/18:2
1421.9493	70:7	16:1/18:2/18:2/18:2	14:0/18:1/18:2/20:4; 14:1/18:1/18:1/20:4; 16:0/16:1/18:2/20:4; 16:0/18:2/18:2/18:3; 16:1/18:2/18:2/18:2
1423.9650	70:6	16:1/18:2/18:1/18:2	14:0/18:1/18:1/20:4; 16:0/16:1/18:1/20:4; 16:0/18:1/18:2/18:3; 16:1/18:1/18:1/18:3; 16:0/18:2/18:2/18:2; 16:1/18:2/18:1/18:2
1425.9806	70:5	16:0/18:1/18:2/18:2; 16:1/18:1/18:1/18:2	16:0/18:1/18:2/18:2; 16:0/18:1/18:1/18:3; 16:1/18:1/18:1/18:2
1427.9963	70:4		16:0/18:2/18:1/18:1; 16:1/18:1/18:1/18:1; 16:1/18:2/18:0/18:1
1445.9493	72:9	18:2/18:2/18:2/18:3	
1447.9650	72:8	18:2/18:2/18:2/18:2	18:2/18:2/18:2/18:2; 18:2/18:2/16:0/20:4; 18:1/18:3/16:0/20:4
1449.9806	72:7	18:1/18:2/18:2/18:2	18:1/18:2/18:1/18:3; 18:1/18:2/18:2/18:2; 18:1/18:1/16:1/20:4; 18:1/18:2/16:0/20:4
1451.9963	72:6	18:1/18:1/18:2/18:2	18:1/18:2/18:1/18:2; 18:1/18:1/18:1/18:3; 18:1/18:1/16:0/20:4
1454.0119	72:5	18:1/18:1/18:1/18:2	18:1/18:1/18:1/18:2
1456.0276	72:4	18:1/18:1/18:1/18:1	18:1/18:1/18:1/18:1; 18:0/18:2/18:0/18:2
1471.9963	74:10	18:2/18:2/18:2/20:4	18:2/18:2/18:2/20:4; 18:2/18:2/18:1/20:5
1473.9806	74:9	18:1/18:2/18:2/20:4; 18:2/18:2/18:2/20:3	18:1/18:2/18:2/20:4; 18:1/18:3/18:1/20:4
1475.9963	74:8	18:1/18:2/18:2/20:3; 18:2/18:2/18:2/20:2	18:0/18:2/16:0/22:6; 18:0/18:2/18:2/20:4; 18:1/18:2/18:1/20:4
1478.0119	74:7	18:2/18:2/18:2/20:1; 18:1/18:2/18:2/20:2	18:1/18:1/18:1/20:4; 18:1/18:2/18:0/20:4; 18:1/18:2/18:1/20:3
1480.0276	74:6	18:1/18:2/18:2/20:1; 18:2/18:2/18:2/20:0	18:0/18:1/18:1/20:4; 18:0/18:2/18:0/20:4; 18:0/18:2/18:1/20:3
1495.9650	76:12	18:2/18:2/18:2/22:6; 18:1/18:3/18:2/22:6	18:2/18:2/18:2/22:6; 18:2/20:4/18:2/20:4
1497.9806	76:11	18:2/18:2/18:1/22:6; 18:1/20:4/18:2/20:4	16:0/22:5/18:2/20:4; 16:0/22:6/18:1/20:4; 18:1/18:3/20:4/20:3
1499.9963	76:10	18:2/18:2/18:1/22:5; 18:1/20:4/18:1/20:4 18:2/18:2/18:2/22:4; 18:1/20:4/18:2/20:3	18:1/20:4/18:1/20:4; 18:0/20:4/18:2/20:4
1502.0119	76:9		16:0/22:5/18:0/20:4; 16:0/22:6/18:1/20:2; 18:2/18:2/18:0/22:5; 18:1/20:4/18:2/20:2
1504.0276	76:8		18:0/20:4/18:0/20:4

CN- carbon number; DB-double bond number

Supplementary Table 2. Identification of mono-lyso-cardiolipin molecular species in cells and tissues.

Exact m/z	CN:DB	Cells C2C12 (WT)	C2C12 cells (TAZ KO)
1109.7040	48:2	14:0/16:1/18:1	14:0/16:0/ <u>18:2</u> ; 14:0/16:1/18:1
1111.7196	48:1		14:0/16:0/18:1
1113.7347	48:0		16:0/16:0/16:0
1135.7196	50:3	16:0/16:1/ <u>18:2</u> ; 16:1/16:1/18:1	16:0/16:1/ <u>18:2</u> ; 16:1/16:1/18:1
1137.7353	50:2	16:0/16:1/18:1; 14:0/18:1/18:1	16:0/16:1/18:1; 14:0/18:1/18:1
1139.7504	50:1	16:0/16:0/18:1	16:0/16:0/18:1
1159.7196	52:5		16:0/16:1/ <u>20:4</u> ; 16:1/16:1/ <u>20:3</u>
1161.7353	52:4	16:0/ <u>18:2/18:2</u> ; 16:1/18:1/ <u>18:2</u>	16:0/16:0/ <u>20:4</u>
1163.7509	52:3	16:0/18:1/ <u>18:2</u> ; 16:1/18:1/18:1	16:0/18:1/ <u>18:2</u> ; 16:1/18:1/18:1
1165.7666	52:2	16:1/18:0/18:1	16:0/18:1/18:1
1183.7196	54:7	<u>18:2/18:2/18:3</u>	
1185.7353	54:6	<u>18:2/18:2/18:2</u>	16:1/18:1/ <u>20:4</u> ; 16:0/18:1/ <u>20:5</u>
1187.7509	54:5	18:1/ <u>18:2/18:2</u>	16:0/18:1/ <u>20:4</u>
1189.7666	54:4	18:1/18:1/ <u>18:2</u>	
1215.7822	56:5	18:1/ <u>18:2/20:2</u>	18:1/ <u>18:2/20:2</u> ; 18:0/18:1/ <u>20:4</u> ; 18:0/18:0/ <u>20:5</u>
Exact m/z	CN:DB	Mouse heart (WT mice)	Mouse heart (TAZ KD mice)
1133.7040	50:4		14:1/18:1/ <u>18:2</u> ; 16:1/16:1/ <u>18:2</u>
1135.7196	50:3		16:1/16:1/18:1
1137.7353	50:2		16:1/16:1/18:0
1139.7504	50:1		16:0/16:0/18:1
1157.7034	52:6		16:1/16:1/ <u>20:4</u>
1159.7196	52:5	16:1/ <u>18:2/18:2</u>	16:1/ <u>18:2/18:2</u>
1161.7353	52:4	16:1/18:1/ <u>18:2</u>	16:0/ <u>18:2/18:2</u> ; 16:1/18:1/ <u>18:2</u>
1163.7509	52:3		16:0/18:1/ <u>18:2</u> ; 16:1/18:1/18:1
1165.7666	52:2		16:0/18:1/18:1
1183.7196	54:7	<u>18:2/18:2/18:3</u>	16:1/ <u>18:2/20:4</u>
1185.7353	54:6	<u>18:2/18:2/18:2</u>	<u>18:2/18:2/18:2</u> ; 18:1/ <u>18:2/18:3</u>
1187.7509	54:5	<u>18:2/18:2/18:1</u>	18:1/ <u>18:2/18:2</u>
1189.7666	54:4		18:1/18:1/ <u>18:2</u> ; 18:0/ <u>18:2/18:2</u>
1191.7822	54:3		18:0/18:1/ <u>18:2</u>
1207.7191	56:9		16:1/ <u>18:2/22:6</u> ; 16:1/ <u>20:4/20:4</u>
1209.7353	56:8	<u>18:2/18:2/20:4</u> ; 16:0/ <u>20:4/20:4</u>	16:1/18:1/ <u>22:6</u> ; 16:0/ <u>20:4/20:4</u> ; 18:2/ <u>18:2/20:4</u>
1211.7509	56:7	<u>18:2/18:2/20:3</u>	18:1/ <u>18:2/20:4</u>
1213.7666	56:6	18:1/ <u>18:2/20:3</u>	<u>18:2/18:2/20:2</u> ; 18:0/ <u>18:2/20:4</u>
1215.7822	56:5		18:1/ <u>18:2/20:2</u> ; 18:0/18:1/ <u>20:4</u>
1217.7973	56:4		18:1/18:1/ <u>20:2</u> ; 18:0/18:2/ <u>20:2</u> ; 18:1/ <u>18:2/20:1</u>
1233.7353	58:10	<u>18:2/18:2/22:6</u>	<u>18:2/20:4/20:4</u>
1235.7509	58:9	<u>18:2/18:2/22:5</u>	18:1/ <u>18:2/22:6</u>
1237.7666	58:8		18:1/18:1/ <u>22:6</u> ; <u>18:2/18:1/22:5</u>

CN- carbon number; DB-double bond number

Supplementary Table 2.(continued)

Exact m/z	CN:DB	Human lymphocytes (Control)	Human lymphocytes (Barth syndrome)
1109.7040	48:2	14:0/16:1/18:1	14:0/16:1/18:1
1111.7040	48:1		14:0/16:0/18:1
1135.7196	50:3	16:1/16:1/18:1	
1137.7353	50:2	14:0/18:1/18:1	14:0/18:1/18:1; 16:0/16:1/18:1
1157.7034	52:6		16:1/16:1/ <u>20:4</u>
1159.7196	52:5		14:0/18:1/ <u>20:4</u> ; 16:0/16:1/ <u>20:4</u>
1161.7353	52:4	16:1/18:1/ <u>18:2</u>	16:1/18:1/ <u>18:2</u> ; 16:0/16:0/ <u>20:4</u> ; 16:1/16:0/ <u>20:3</u>
1163.7509	52:3	16:0/18:1/ <u>18:2</u> ; 16:1/18:1/18:1	16:1/18:1/18:1
1165.7666	52:2	16:0/18:1/18:1	16:0/18:1/18:1
1185.7353	54:6	<u>18:2/18:2/18:2</u>	16:1/18:1/ <u>20:4</u> ;
1187.7509	54:5	18:1/ <u>18:2/18:2</u>	18:1/ <u>18:2/18:2</u> ; 16:1/18:1/ <u>20:3</u> ; 16:0/18:1/ <u>20:4</u>
1189.7666	54:4	18:1/18:1/ <u>18:2</u>	18:1/18:1/ <u>18:2</u>
1191.7822	54:3	18:1/18:1/18:1	18:1/18:1/18:1
1211.7509	56:7	<u>18:2/18:2/20:3</u>	18:1/18:1/ <u>20:5</u>
1213.7666	56:6	18:1/18:1/ <u>20:4</u> ; 18:1/ <u>18:2/20:3</u>	18:1/18:1/ <u>20:4</u>
1215.7822	56:5	18:1/18:1/ <u>20:3</u>	18:0/18:1/ <u>20:4</u>
1237.7666	58:8	18:1/ <u>20:3/20:4</u>	18:1/ <u>20:3/20:4</u> ; 18:1/18:1/ <u>22:6</u>
1239.7822	58:7		18:1/ <u>20:3/20:3</u> ; 18:1/18:1/ <u>22:5</u>
Exact m/z	CN:DB	Human heart tissue (Control)	Human heart tissue (Barth syndrome)
1107.6883	48:3		14:0/16:1/ <u>18:2</u> ; 16:1/16:1/16:1
1109.7040	48:2		14:0/16:1/18:1; 14:0/16:0/ <u>18:2</u>
1111.7196	48:1		14:0/16:0/18:1
1133.7040	50:4	14:0/ <u>18:2/18:2</u>	14:0/ <u>18:2/18:2</u> ; 14:1/18:1/ <u>18:2</u> ; 16:1/16:1/ <u>18:2</u>
1135.7196	50:3		14:0/18:1/ <u>18:2</u> ; 14:1/18:1/18:1; 16:1/16:1/18:1 16:0/16:1/ <u>18:2</u>
1137.7353	50:2	14:0/18:1/18:1	14:0/18:1/18:1; 16:0/16:1/18:1; 16:0/16:0/ <u>18:2</u>
1159.7196	52:5	16:1/ <u>18:2/18:2</u>	14:0/18:1/ <u>20:4</u> ; 16:0/16:1/ <u>20:4</u> ; 16:1/ <u>18:2/18:2</u>
1161.7353	52:4		16:0/ <u>18:2/18:2</u> ; 16:1/18:1/ <u>18:2</u>
1163.7509	52:3	16:0/18:1/ <u>18:2</u> ; 16:1/18:1/18:1	16:0/18:1/ <u>18:2</u> ; 16:1/18:1/18:1
1165.7666	52:2	16:0/18:1/18:1	16:0/18:1/18:1
1183.7196	54:7		<u>18:2/18:2/18:3</u> ; 18:1/ <u>18:3/18:3</u> ; 16:0/ <u>18:3/20:4</u> 16:1/ <u>18:2/20:4</u>
1185.7353	54:6	<u>18:2/18:2/18:2</u>	<u>18:2/18:2/18:2</u> ; 18:1/ <u>18:2/18:3</u> ; 16:0/ <u>18:2/20:4</u> 16:1/18:1/ <u>20:4</u>
1187.7509	54:5		18:1/ <u>18:2/18:2</u> ; 16:0/18:1/ <u>20:4</u>
1189.7666	54:4	18:1/18:1/ <u>18:2</u>	18:1/18:1/ <u>18:2</u>
1191.7822	54:3	18:1/18:1/18:1	18:1/18:1/18:1; 18:1/18:0/ <u>18:2</u>
1209.7353	56:8	<u>18:2/18:2/20:4</u>	<u>18:2/18:2/20:4</u> ; 18:1/ <u>18:3/20:4</u>
1211.7509	56:7	18:1/ <u>18:2/20:4</u> ; <u>18:2/18:2/20:3</u>	18:1/ <u>18:2/20:4</u>
1213.7666	56:6	18:1/18:1/ <u>20:4</u>	18:1/18:1/ <u>20:4</u> ; 18:0/ <u>18:2/20:4</u>
1215.7822	56:5		18:0/18:1/ <u>20:4</u>
1233.7353	58:10		<u>18:2/20:4/20:4</u>
1235.7509	58:9		18:1/ <u>20:4/20:4</u> ; <u>18:2/20:4/20:3</u> ; 18:1/ <u>18:2/22:6</u> ; <u>18:2/18:2/22:5</u>
1237.7666	58:8		18:0/ <u>20:4/20:4</u> ; 18:1/18:1/ <u>22:6</u> ; <u>18:2/18:1/22:5</u>
1239.7822	58:7		18:1/ <u>20:2/20:4</u> ; 18:1/18:1/ <u>22:5</u> ; 18:0/18:1/ <u>22:6</u>

CN- carbon number; DB-double bond number