

## Legends to Supplemental Figure and Table

**Supplemental Figure 1.** Fatty acyl carbon chain length distribution and variation in T24 cells compared with RT4 cells. (A) Characterization of PC fatty acyl chains with carbon numbers from 28 to 40 (values expressed in terms of number of percentage). (B) Characterization of ether PCs (e-PC) carbon chain length distribution (28-44 C) and variation (values expressed in terms of  $\log_{10}$ ). (C) SM carbon number distribution (32-44 C) and variation (values expressed in terms of  $\log_{10}$ ). \*\*\*  $p < 0.001$ , significant differences of T24 cells with respect to RT4 cells ( $n=6$ ).

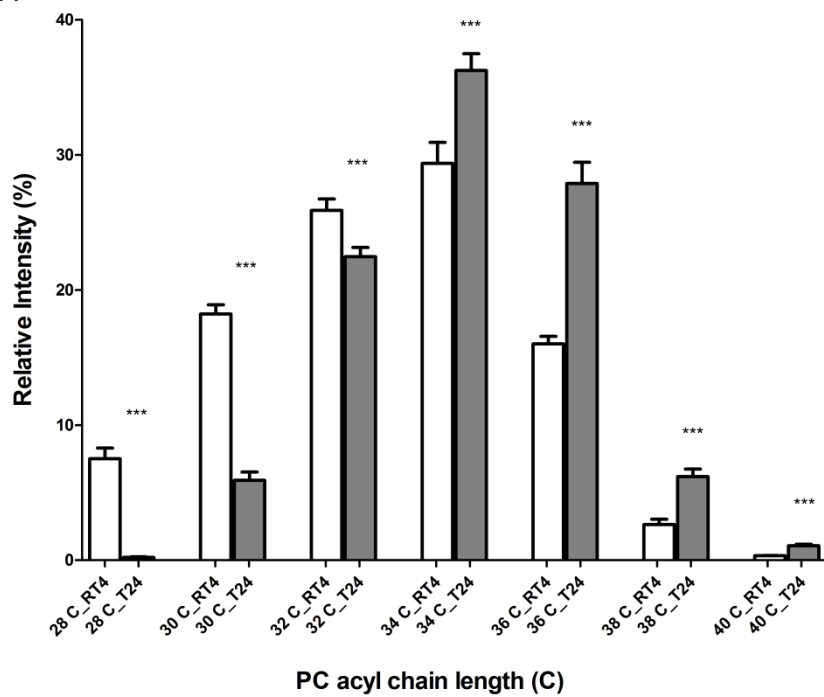
**Supplemental Figure 2.** Fatty acyl double bond (db) distribution and variation in T24 cells and RT4 cells. (A) Analysis of PC double bond (0-7 db) distribution (values expressed in terms of relative ratio  $\log_{10}$ ). (B) The ether PC (e-PC) double bond (0-7 db) distribution (values expressed in terms of relative ratio  $\log_{10}$ ). \*\*\*  $p < 0.001$ , significant differences of T24 cells with respect to RT4 cells ( $n=6$ ).

**Supplemental Figure 3.** Unsaturation Index (UI) analysis of PC, SM and e-PC in T24 cells and RT4 cells. The invasive T24 cells show an increased UI of PC, SM, and e-PC compared with the noninvasive RT4 cells. \*\*\*  $p < 0.001$ , significant differences of T24 cells with respect to RT4 cells ( $n=6$ ).

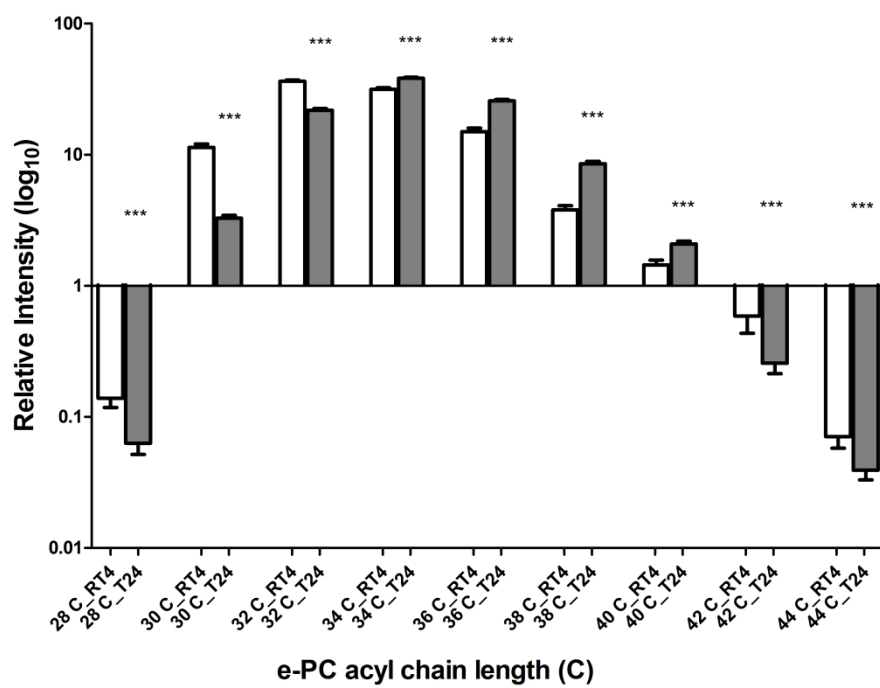
**Supplemental Table 1.** Examples of identified potential lipid markers and their corresponding distributions in RT4 cells or T24 cells.

Fig. S1

A



B



C

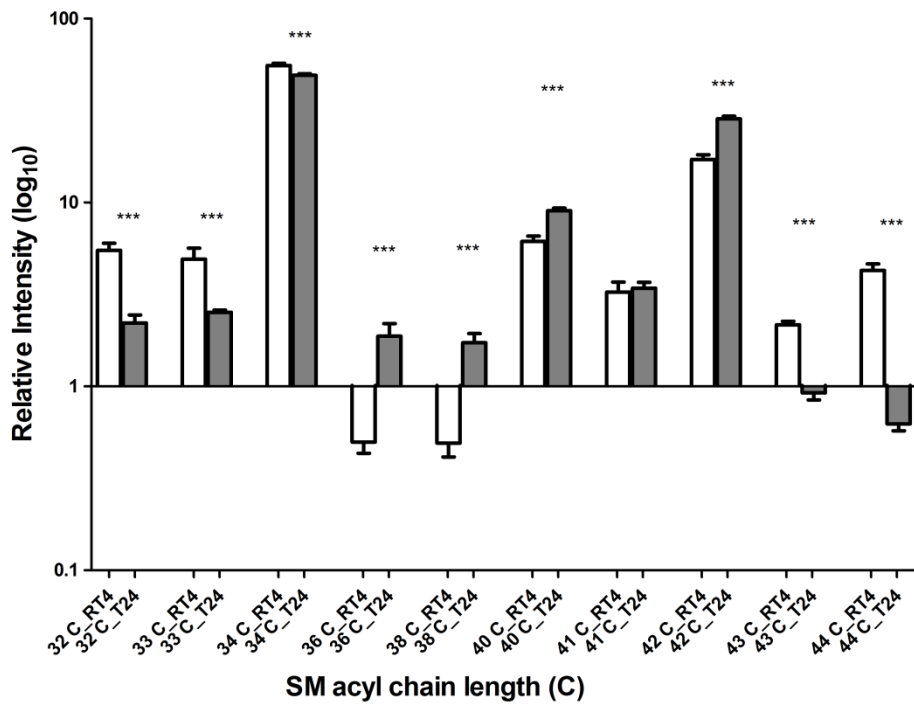
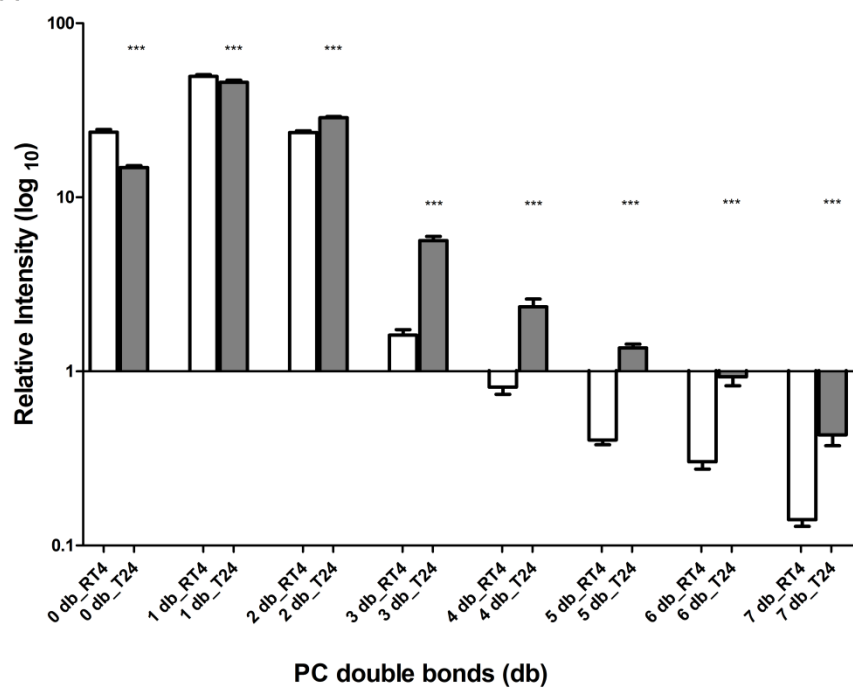
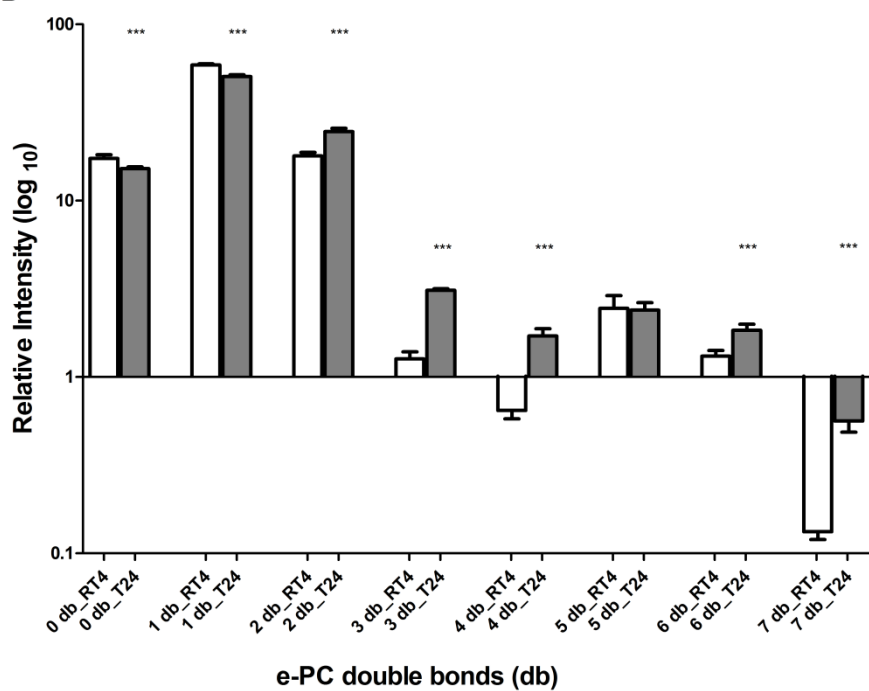


Fig. S2

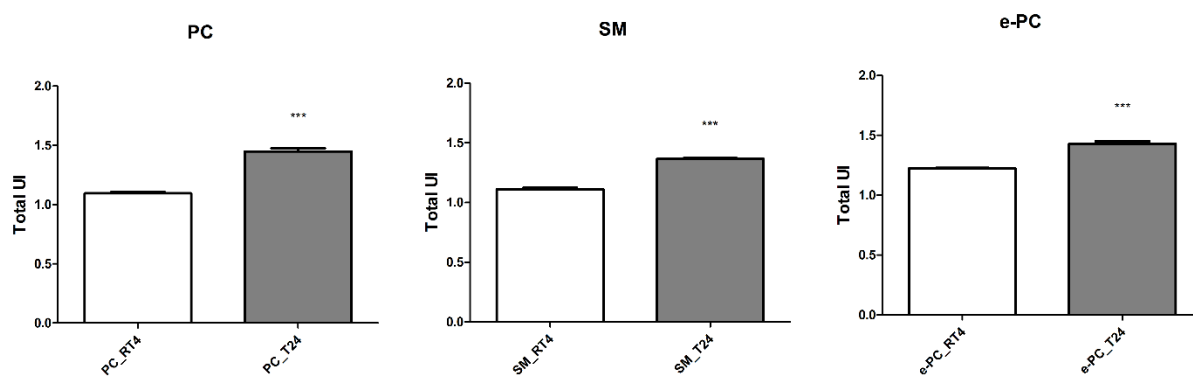
A



B



**Fig. S3**



**Table S1**

Identity of lipid molecular species	Higher abundance in RT4 or T24
PE 32:1; PE 34:1; PE 34:2; e-PE 32:1; e-PE 34:2	RT4
PE 36:1; PE 38:2; PE 38:3; PE 38:4; PE 38:5; PE 38:6; PE 40:4; PE 40:7; e-PE 36:1; e-PE 38:6	T24