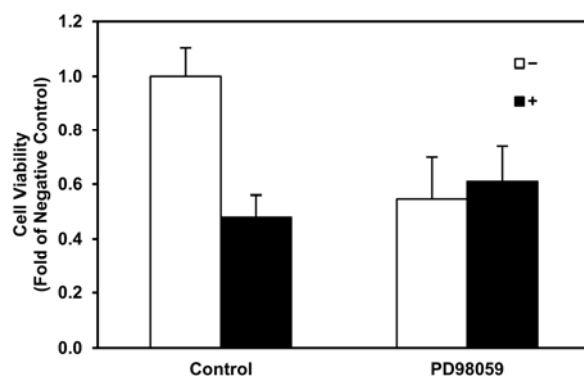


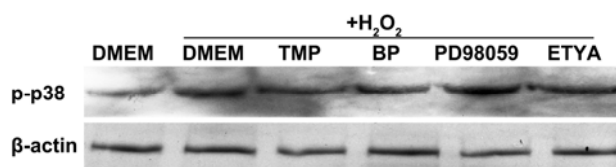
## Supplementary Information

**Table S1** The most varied species in discrimination of DMEM, TMP and BP pretreated cells with H<sub>2</sub>O<sub>2</sub> induction. Their contents in DMEM, TMP and BP with H<sub>2</sub>O<sub>2</sub> cells are shown.

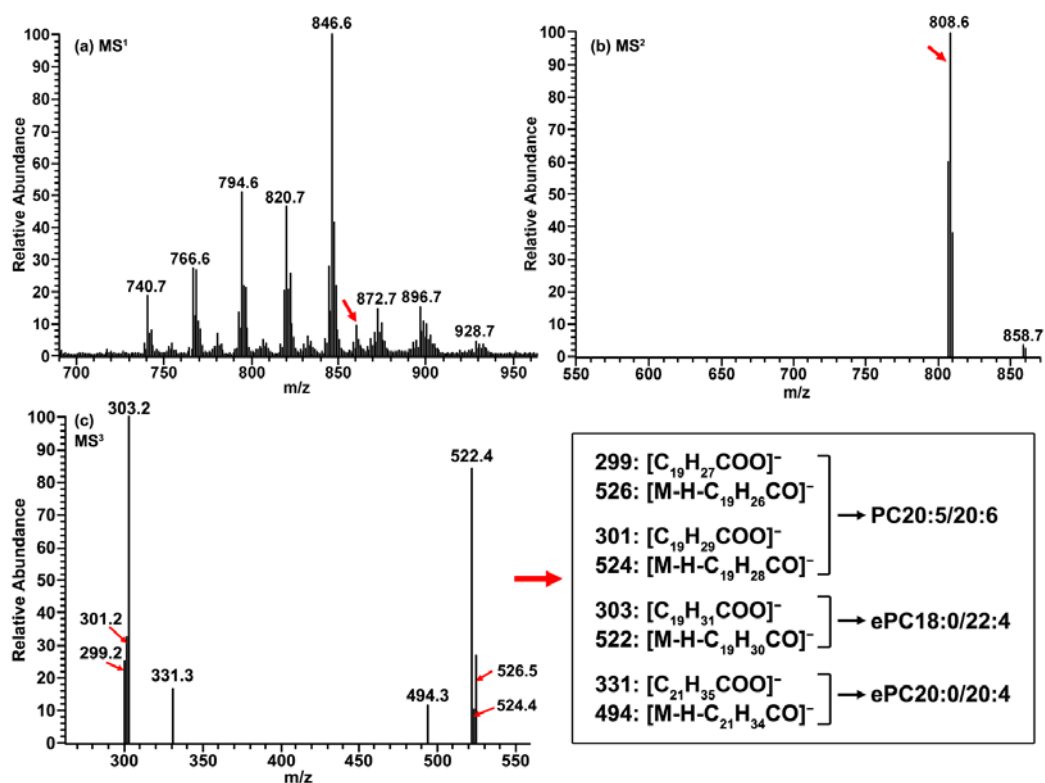
Molecular Species	Lipid/Protein (nmol·mg <sup>-1</sup> )		
	DMEM+H <sub>2</sub> O <sub>2</sub>	TMP+H <sub>2</sub> O <sub>2</sub>	BP+H <sub>2</sub> O <sub>2</sub>
ePE40:1	0.254±0.059	0.518±0.111	0.395±0.122
PE42:8/ePE42:1	0.069±0.022	0.152±0.045	0.132±0.044
PE44:7	0.052±0.024	0.124±0.097	0.112±0.034
ePC34:4	0.542±0.003	0.674±0.007	0.565±0.005
PC34:0	10.421±0.537	14.397±1.558	13.217±1.435
ePC36:0	1.067±0.157	1.954±0.371	1.100±0.143
ePC38:2	2.434±0.166	2.660±0.586	2.584±0.121
PC38:0/ePC40:7	2.451±0.044	2.585±0.047	2.884±0.040
ePC40:6	0.335±0.021	0.466±0.017	0.435±0.025
PC40:8/ePC40:1	0.576±0.062	0.715±0.086	0.704±0.036
PC42:11/ePC42:4	0.305±0.022	0.678±0.011	0.486±0.020
PI34:2	0.663±0.046	0.616±0.044	0.782±0.052
PI34:0	0.639±0.088	0.585±0.073	0.882±0.131
ePI36:3	0.111±0.032	0.106±0.028	0.361±0.035
ePI36:0	0.136±0.114	0.205±0.038	0.328±0.109
PI36:0	0.560±0.047	0.460±0.031	0.743±0.057
ePI38:4	0.137±0.008	0.166±0.015	0.219±0.023
ePI38:2	0.143±0.015	0.149±0.044	0.193±0.048
PI38:2	1.595±0.192	1.098±0.046	1.797±0.082
PI40:8	0.113±0.019	0.075±0.004	0.137±0.014
eLPE16:1	0.299±0.030	0.242±0.010	0.300±0.018
eLPE18:1	0.740±0.036	0.490±0.024	0.548±0.044
LPE18:1	1.176±0.039	0.760±0.108	1.175±0.039
LPE20:4	0.288±0.025	0.205±0.019	0.303±0.025
LPE20:3	0.119±0.015	0.073±0.009	0.121±0.015
PA34:1	0.341±0.040	0.251±0.028	0.379±0.080
PA36:2	0.308±0.031	0.240±0.025	0.384±0.024
PA36:1	0.256±0.019	0.233±0.017	0.343±0.044
LPC16:1	0.157±0.014	0.112±0.012	0.138±0.013
LPC16:0	1.476±0.151	0.926±0.079	1.031±0.104
LPC18:1	1.459±0.151	1.275±0.098	1.091±0.096
LPC18:0	1.637±0.163	0.862±0.061	0.966±0.138
LPC20:1	0.160±0.027	0.066±0.008	0.062±0.006
LPC20:0	0.077±0.007	0.040±0.002	0.038±0.004



**Fig. S1** Cell viability in fold changes compared to the control. The control and PD98059 represent the cells that were pretreated with DMEM and 5 mM PD98059 for 2 h, respectively. The “-” and “+” represent the cells that were induced with/without 0.2 mM H<sub>2</sub>O<sub>2</sub> for 1 h. Results are expressed as mean ± SEM (n ≥ 5).



**Fig. S2** (a) A western-blot for p-p38. Cells were pretreated with DMEM, 5 μM TMP, 10 μM BP, 10 μM PD98059 or 10 μM ETYA for 12 h, respectively, then induced by 0.2 mM H<sub>2</sub>O<sub>2</sub> for 1 h.



**Fig. S3** Negative-ion data-dependent MS<sup>1</sup>/MS<sup>2</sup>/MS<sup>3</sup> analysis of PC40:11/e40:4 (m/z 858.7) from EA.hy926 cells. (a) The average MS<sup>1</sup> spectrum of PC. (b) The MS<sup>2</sup> spectrum of m/z 858.7 ([M+Cl]<sup>-</sup>). The MS<sup>2</sup> fragment ions m/z 808.6 correspond to [M-CH<sub>3</sub>]<sup>-</sup>. (c) The MS<sup>3</sup> spectrum of m/z 808.6 ([M-CH<sub>3</sub>]<sup>-</sup>). The MS<sup>3</sup> fragment ions are listed in the bottom right panel.