

Abstract graphic



Glyphosate

↑ TET3

DMOG
diet intervention

Global DNA
hypomethylation

MethylGlyphoScore

hit#1

Healthy cell

Breast
Cancer
Cell

hit#2
=miR-182-5p^{overexp}

Anti-miR-182-5p

« therapeutic intervention »

Blood based biomarker

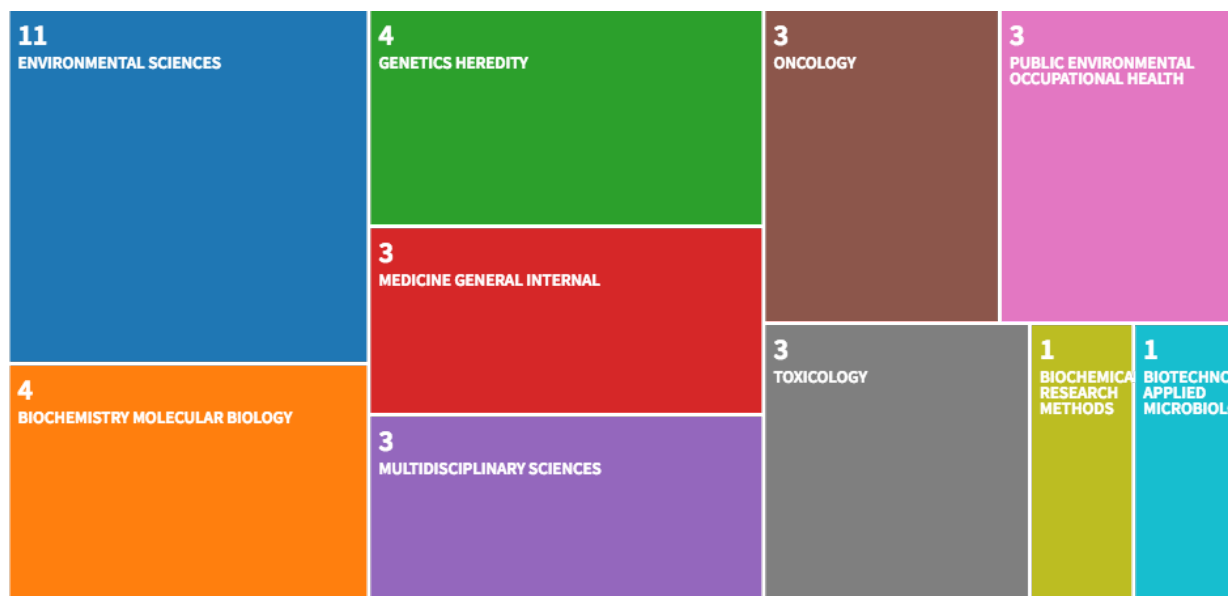


Figure S1. Illustration of the 26 records seen during the past five years, using combined key words “Pollutant AND epigenetic AND cancer risk” in the web of science.

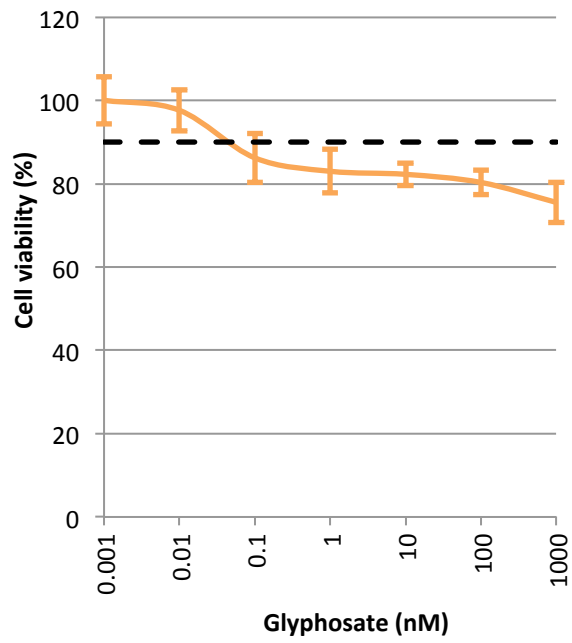


Figure S2. Percentage of viable MCF10A cells depending on glyphosate concentration.

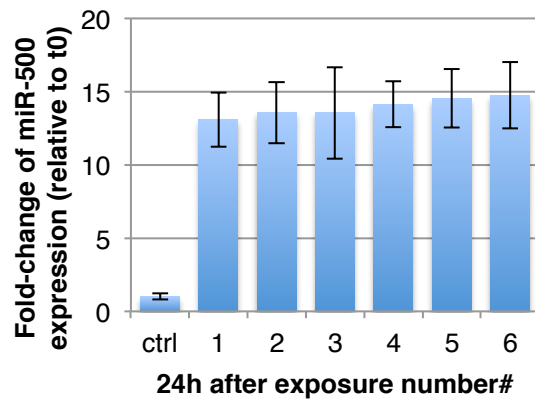
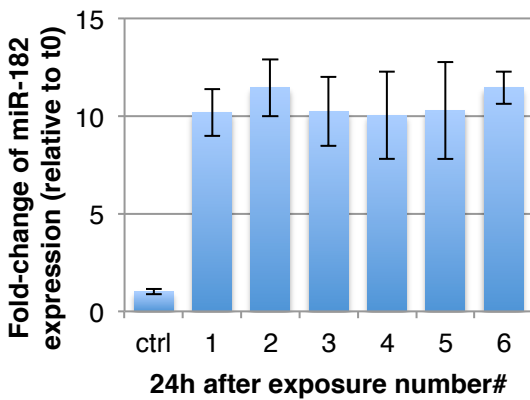
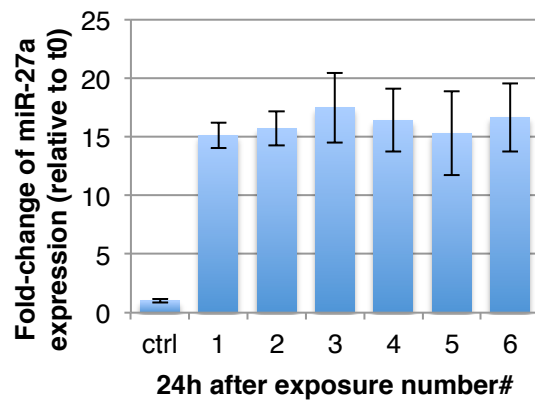
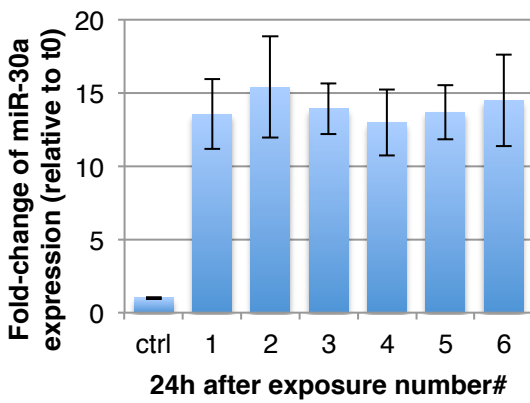
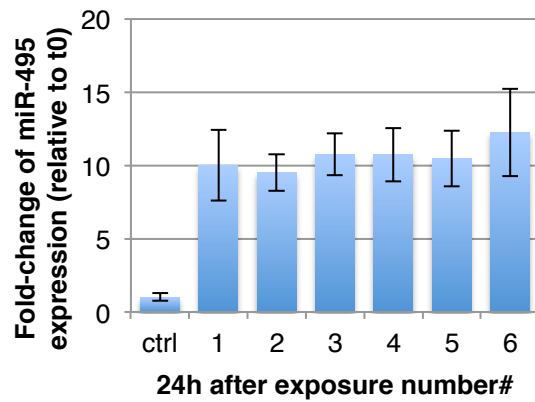
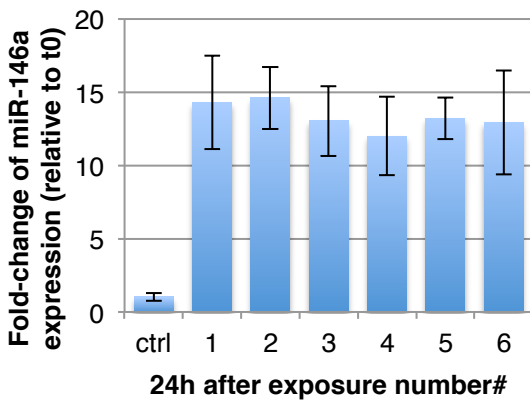


Figure S3. Efficacy of miRNA transfection analyzed by quantification of miRNA expression in MCF10A cells 24h after each transfection and exposure to glyphosate (see treatment schedule Figure 2). Control (ctrl or t0) are nontransfected cells)

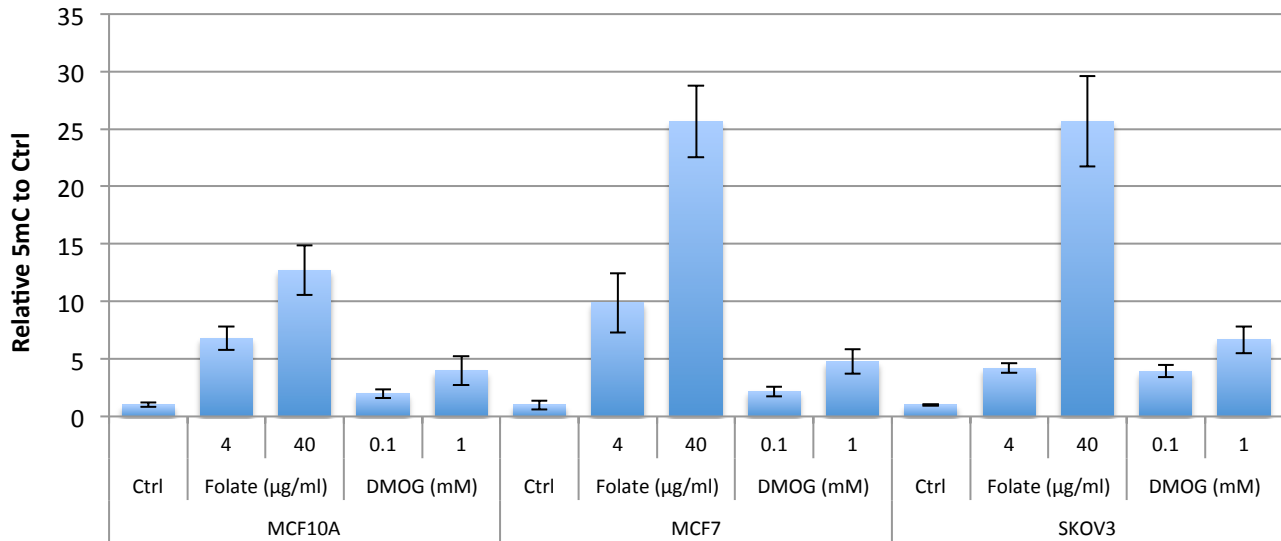


Figure S4. Efficiency of folate and DMOG to increase the global level of 5methylcytosine (5mC). 72h after Folate or DMOG addition, DNA was extracted and ELISA was performed to estimate the 5mC level.

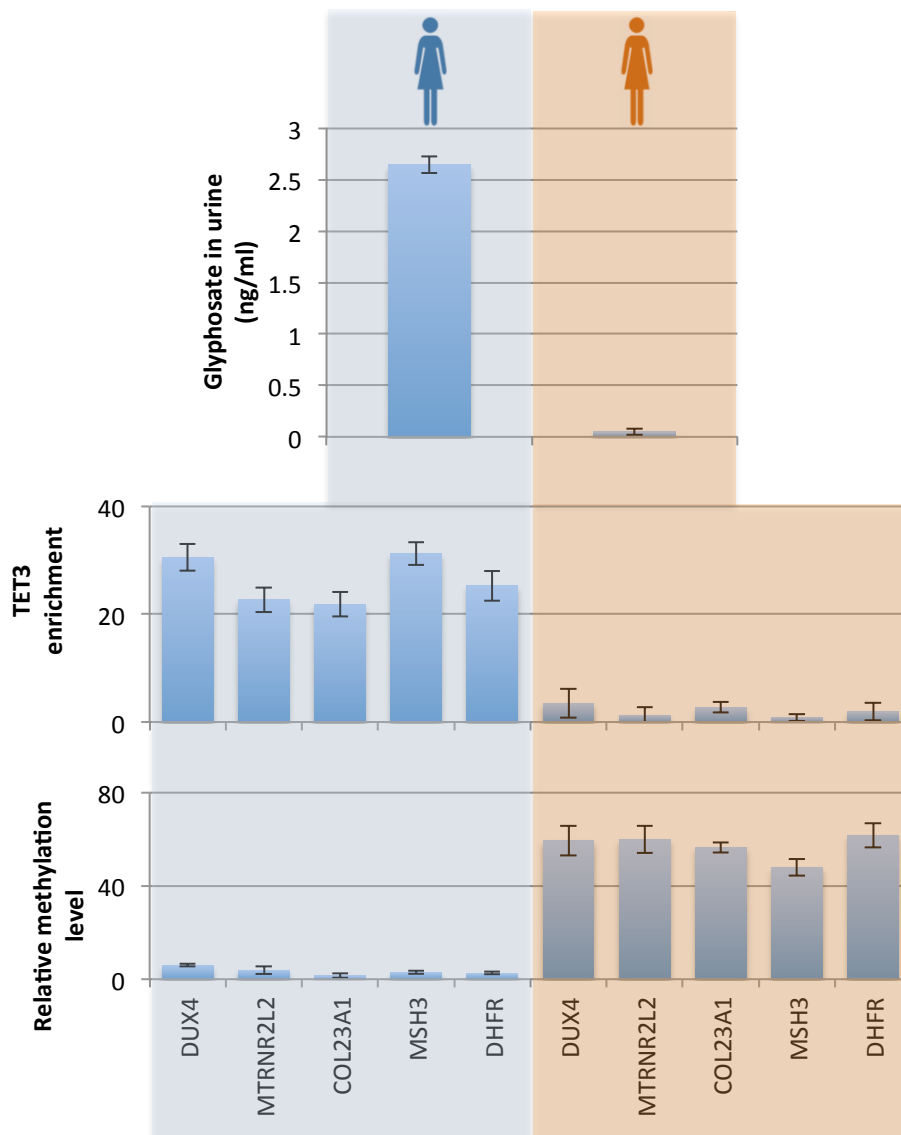


Figure S5. Status of TET3-related genes in breast tissues from women with either low or high glyphosate exposure.

Top graph: Glyphosate concentration in urine.

Middle graph: TET3 enrichment assessed via ChIP on *DUX4*, *MTRNR2L2*, *COL23A1*, *MSH3* and *DHFR* genes.

Bottom graph: Methylation levels of *DUX4*, *MTRNR2L2*, *COL23A1*, *MSH3* and *DHFR* relative to universal methylated DNA standard (Ozyme/Zymo, France).

The blue panels correspond to results from a woman with high exposure to glyphosate and the orange panels correspond to results from a women with low exposure to glyphosate.