Supporting Information

Oxidative stress increases M_1dG, a major peroxidation DNA adduct, in mitochondrial DNA

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Supplemental Figures:

Supplemental Figure 1. M_1dG levels in mtDNA in RKO cells after lysis and DNA isolation in the presence of 10 mM TEMPO.

Supplemental Figure 2. (A) Representative LC-MS (SRM) chromatogram of the [^{13}C,$^{15}N_2$]-M_1dG internal standard co-eluting with M_1dG from a sample. **(B)** Representative LC-MS (SRM) chromatogram of the [$^{15}N_5$]-6-oxo-M_1dG internal standard. No 6-oxo-M1dG was detected in the digested mtDNA samples. **(C)** Representative CID of the M_1dG peak from a representative sample from RKO cells treated with rotenone (100 nM) showing its fragmentation pattern. **(D)** Representative CID of a synthetic M_1dG standard. In both cases, fragmentation of the M_1dG peak at 304.1 m/z with CE set 50 eV. Fragment at 188.1 corresponds to the loss of deoxyribose.

Supplemental Figure 3. M_1dG levels in mtDNA in RKO cells after treatment with antimycin A (10 μM), mitoTEMPO (10 μM), TEMPOL (μM) for 24 h.

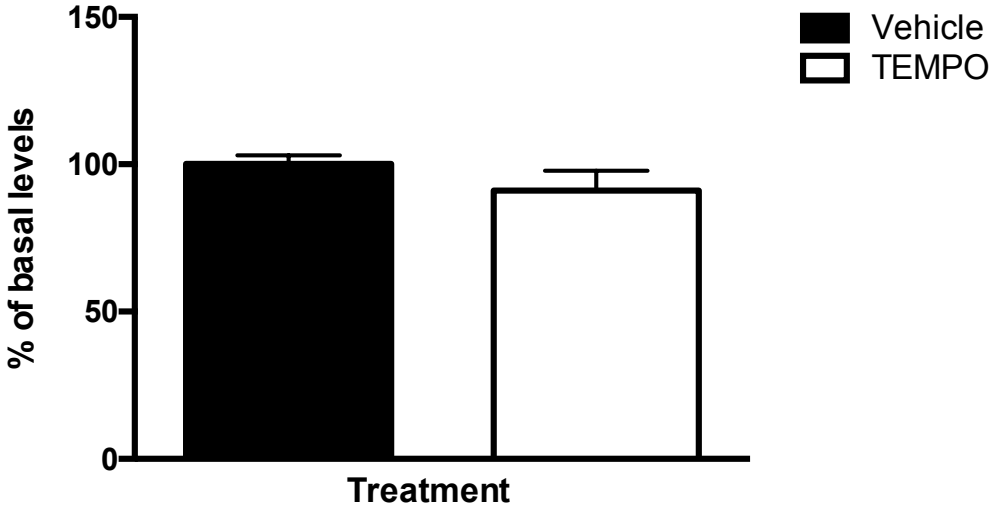


Figure S1.

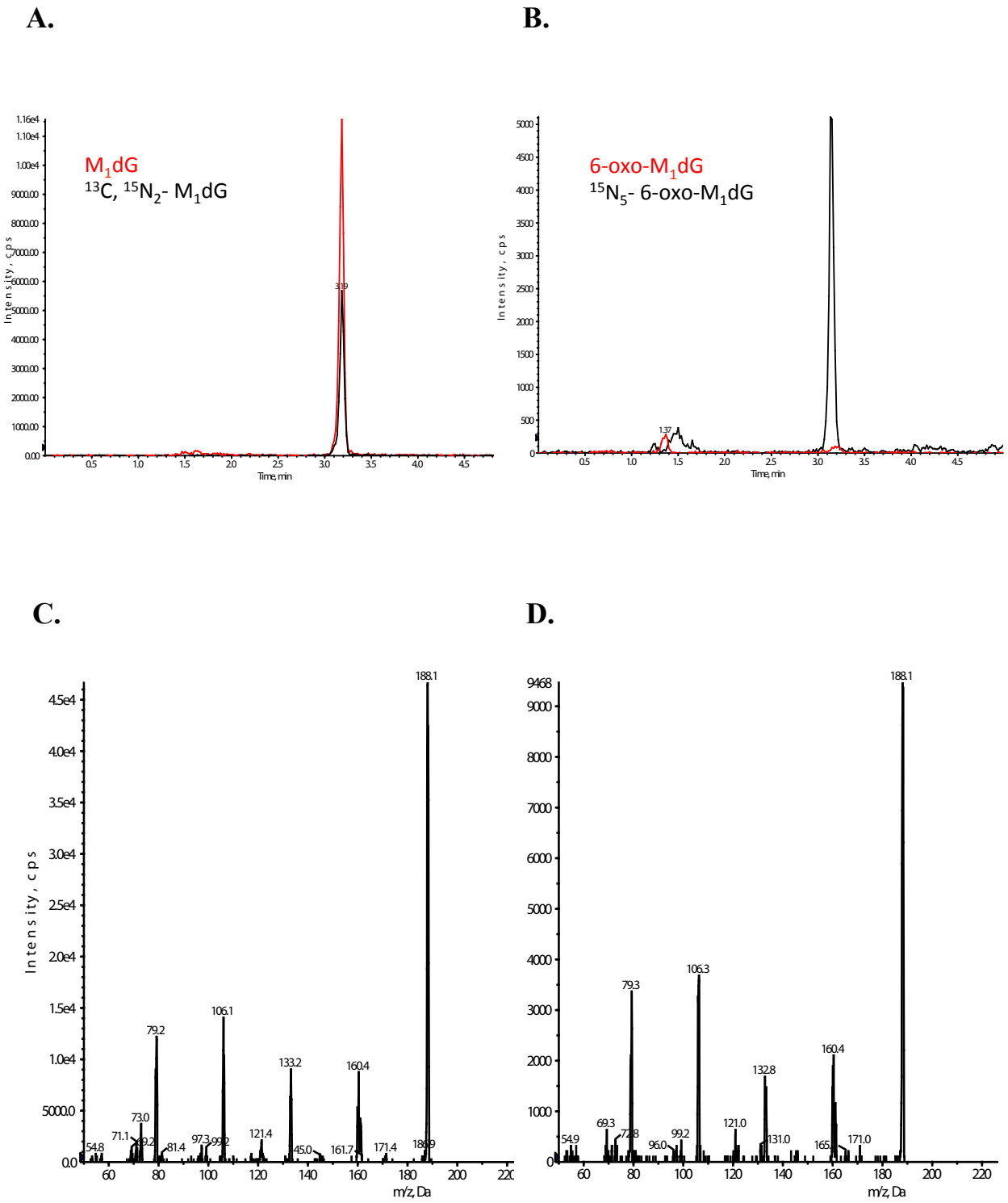
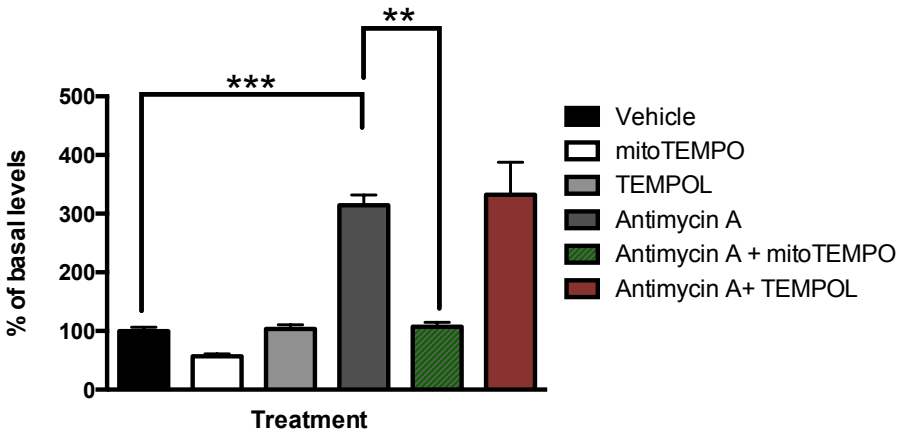

A.
B.
M1dG
13C, 15N2- M1dG
6-oxo-M1dG
15N5- 6-oxo-M1dG
Intensity, cps
Time, min
C.
D.
m/z, Da

Figure S2.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500
400
300
200
100
0
% of basal levels
Treatment
Vehicle
mitoTEMPO
TEMPOL
Antimycin A
Antimycin A + mitoTEMPO
Antimycin A+ TEMPOL

Figure S3.