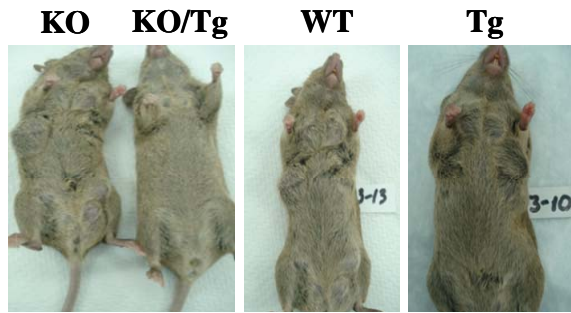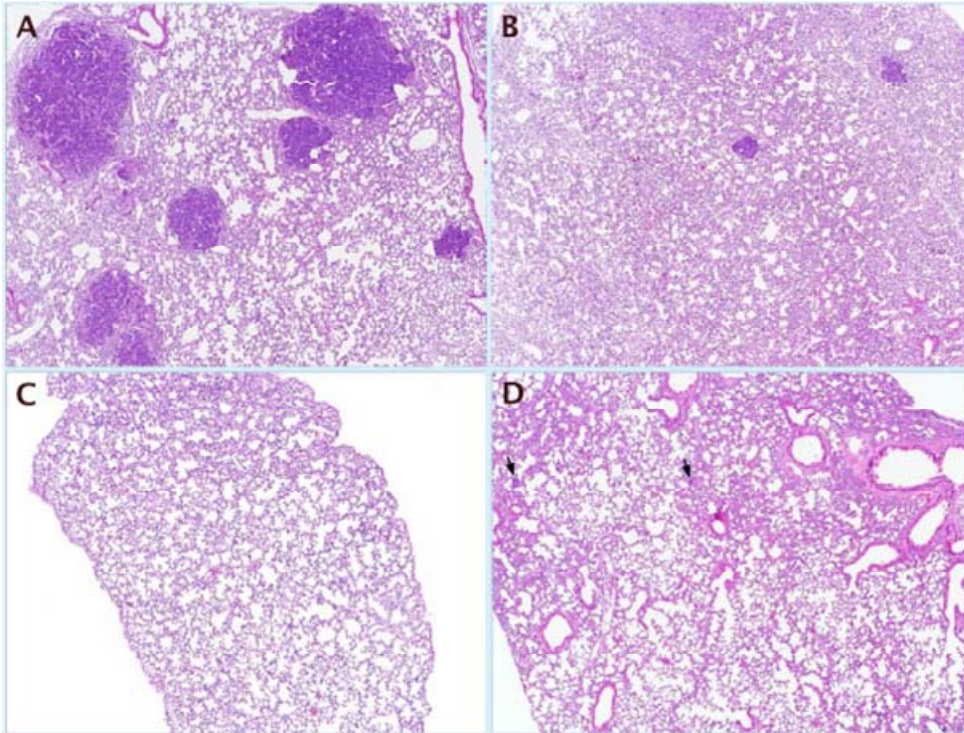## Supplementary Figure S1

KO   KO/Tg   WT   Tg

Figure S1. Representative images of each genotype of PyMT mice with mammary tumors

obtained from 12-16-week old female.

Supplementary Figure S2

Figure S2. Histological sections of the lungs from PyMT mice of different OGG1 genotypes. A, Lung with multiple metastatic foci from a PyMT/KO mouse (HE, 40X); B, Lung with rare metastatic foci from a PyMT/WT mouse (HE, 40X); C, Lung with no metastases from a PyMT/Tg mouse (HE, 40X); D, Lung with minute metastatic foci (arrows) from a PyMT/KO/Tg mouse (HE, 40X).
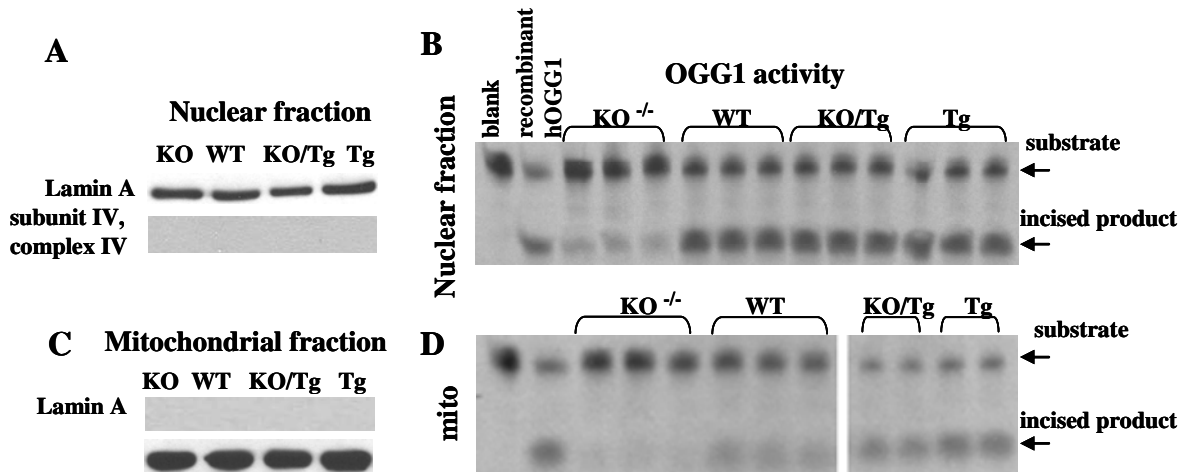
Figure S3. OGG1 activity in mammary tumors isolated from: B-nuclear, and D- mitochondrial fractions from PyMT/KO and PyMT/Tg animals**.** The OGG1 activity was performed as previously described with minor modifications (7, 8). Briefly, 20 µg of a mitochondrial/nuclear fraction isolated from mammary tumors was incubated with a radiolabelled duplex containing 8-OxoG for 3 h at 37^0C. The incised product was separated by denaturing polyacrylamide gel electrophoresis, wet gels were autoradiographed at -70^0 C and the resultant images were scanned from film. As a positive control, recombinant hOGG1 (New England Biolab) was used. First, nuclear and mitochondrial fractions were isolated from mammary tumors and the purity of both fractions was checked by the enrichment of nuclear (A) or mitochondrial (C) specific proteins by Western blot. Equal loading was confirmed using Ponceau staining of the membrane. Lamin A and subunit IV of Complex IV were used to indicate nuclear and mitochondrial localization, respectively. B and D- OGG1 activity was performed. Note the almost complete absence of the product in the PyMT/KO and minimal product in PyMT/WT animals and increased amount of incised product in mitochondrial fractions isolated from PyMT/Tg and PyMT/KO/Tg mice.

Supplementary Figure S4
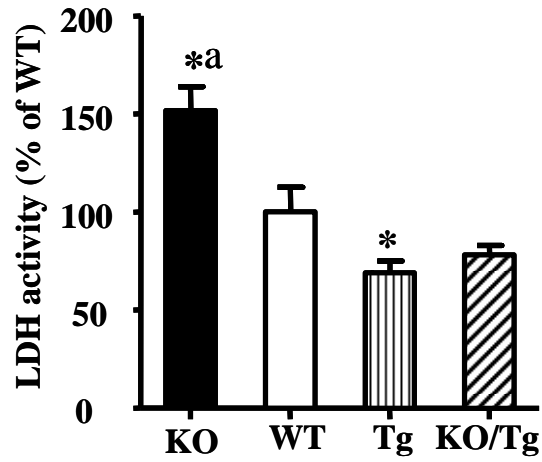
Figure S4. LDH activity in mammary tumors isolated from PyMT/KO, PyMT/WT, PyMT/Tg and PyMT/ KOTg mice. Data are shown as a percentage relative to tumors isolated from PyMT/WT mice and are the means $\pm$ SE. (n=4-6). $*p < 0.05$ *vs* WT, [a]$p < 0.05$ *vs* all other groups, one way ANOVA.