SI GUIDE

Systematic identification of genomic markers of drug sensitivity in cancer cells

1. **Supplementary information**
   This files contains Supplementary Figures and Legends 1-22, and Supplementary Tables 1-3. (PDF; 11.5 MB)

2. **Supplementary Data**
   This file contains all of the Supplementary Data reported in the manuscript as described below. (Excel, 14.1 MB)

   a. Supplementary Data 1
   A table of cell line drug sensitivity data and mutations in cancer genes.   This table includes cell line name, COSMIC ID, tissue type, cancer type, genetic information, MSI status and drug sensitivity data (including slope and IC_{50} values).

   b. Supplementary Data 2
   A table describing all screening drugs used for this analysis.

   c. Supplementary Data 3
   A table of results from ANOVA analysis of drug sensitivity in 48 different cancer subtypes.

   d. Supplementary Data 4
   A heatmap of cancer-types associated with sensitivity or resistance to anti-cancer drugs. Cancer-type:drug associations with a FDR <0.2 (q-value <0.2) have been displayed and sensitivity and resistance effects are coloured green and red, respectively.

   e. Supplementary Data 5
   A table of results from MANOVA analysis of cancer genes as modifiers of drug sensitivity.

   f. Supplementary Data 6
   A table of the 26,938 gene:drug associations identied by the Elastic Net analysis. For each association the frequency and the magnitude of the effect of the interaction are presented.

   g. Supplementary Data 7
   A table of the drug targets identified by the elastic net.

   h. Supplementary Data 8
   A table of the genomic features identified by the elastic net that are cancer genes. Cancer gene:drug associations with a stability $f > 0.5$ (present in >50% of the modeling iterations) are shown.

   i. Supplementary Data 9
   A table of cell line drug sensitivity data for PARP inhibitor AG-014699. IC_{50} values are natural logs.

j. Supplementary Data 10
A table showing the site of screening (MGH or WTSI), plate format (96 or 384 well) and assay type (Syto60 for adherent or alamar blue/resazurin for suspension cell lines) for each IC_{50} ID.

k. Supplementary Data 11
Copy number data for cell lines across 426 cancer genes used in the Elastic Net analysis.