Supplementary figure legend

Supplementary Figure 1

Histological analysis of homotypic microtissues formed with HEY-GFP cells. These cells were capable of reforming homotypic, solid spheres, as shown by hematoxylin and eosin staining. The microtissues occasionally contained some necrotic cells after 11 days of cultivation but did not show a necrotic core at the microtissue size investigated in this experiment. IHC staining of EGRF displayed a homogenous protein expression pattern in the spheroids. The homotypic HEY microtissue model showed a high number of proliferating cells, distributed homogenously throughout the spheres, shown by IHC staining of Ki67, a marker for proliferating cells.

Supplementary Figure 2

NanoLUC reporter expression from NIH3T3. Growth and viability profiles of heterotypic spheroid models with PANC1 (A), SKOV3 (B) and HEY (C) cells in co-culture with NIH (green) and NIHnanoLUC (blue) fibroblasts. NanoLUC expression of respective models benchmarked with homotypic NIHnanoLUC tissues (D).

Supplementary Figure 3

Dose response curves for TAK-733 (A) and Dasatinib (B) tested against the ovarian cancer model HEY/NIH and HEY microtissues. For HEY/NIH Area, ATP and nanoLUC is represented, for HEY only Area and ATP.

Supplementary Table 1

Overview of the drugs used for pharmacological profiling.

Supplementary Table 2

Comparison of AC50 values obtained with HEY homotypic vs heterotypic microtissues. Green highlights indicate compounds with similar potencies; blue indicate compounds more potent in heterotypic microtissues; and red are those compounds more potent in homotypic tissues.

Supplementary Table 3

Comparison of AC_{50} values obtained with HEY/NIH, SKOV/NIH and PANC/NIH spheroids using ATP assay at 7 days

Supplementary Table 4

Screening results for Efficacy, Potency, growth constant and cytotoxicity of HEY/NIH (A), SKOV/NIH (B) and PANC-1 (C).

Supplementary Table 5

Single endpoint ranking of HEY/NIH (A), SKOV/NIH (B) and PANC-1 (C).

Supplementary Table 6

Multi-parameter ranking of HEY/NIH, SKOV/NIH and PANC-1/NIH. For the 3-parameter ranking only efficacy endpoints were used; AC_{50}, % maximal response, and growth constant. For the 5-parameter ranking the 3-day and 7-day Nano-Luc-based AC_{50} for cytotoxicity were included.