Figure S1. Dose-response curves of chemotherapy agents in the HCC-44 cell line in the absence or presence of the immune checkpoint inhibitors (48 h treatment). (A) Gemcitabine; (B) pemetrexed; (C) cisplatin; (D) etoposide; (E) vinorelbine; (F) docetaxel; (G) paclitaxel. Average normalized viability values ± SEM are shown (n≥3 for each dose-response curve). The data were fitted to the (A and B) biphasic function or (C-G) logarithmic dose-response function. In case of biphasic curves, only low-dose pIC_{50} values were compared to establish the potentiating or depotentiating effects of antibodies. M, molarity.

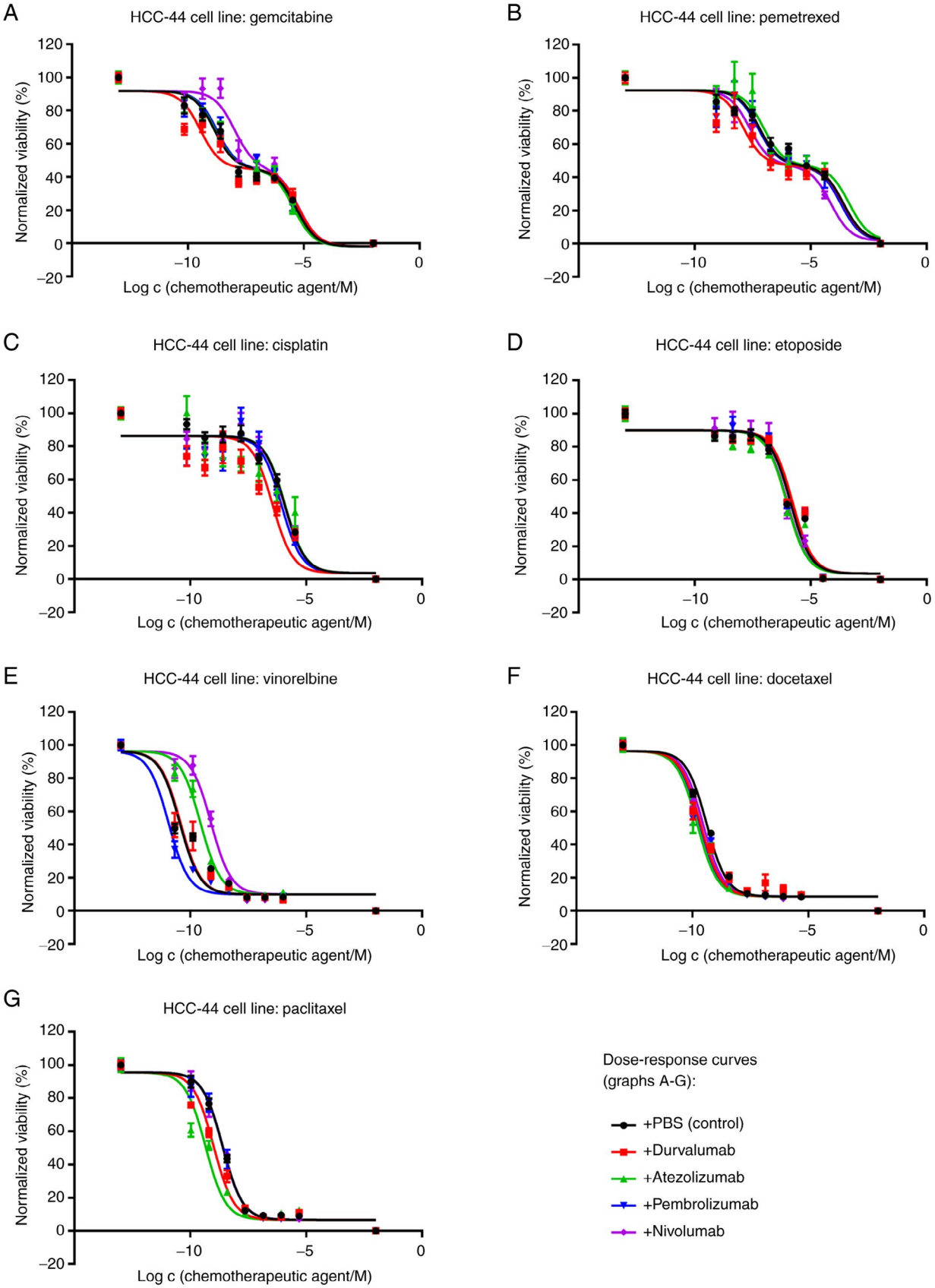

Figure S2. Dose-response curves of chemotherapy agents in the A-549 cell line in the absence or presence of the immune checkpoint inhibitors (48 h treatment). (A) Gemcitabine; (B) pemetrexed; (C) cisplatin; (D) etoposide; (E) vinorelbine; (F) docetaxel; (G) paclitaxel. Average normalized viability values ± SEM are shown (n≥3 for each dose-response curve). The data were fitted to the (A and B) biphasic function or (C-G) logarithmic dose-response function. In case of biphasic curves, only low-dose pIC_{50} values were compared to establish the potentiating or depotentiating effects of antibodies. M, molarity.

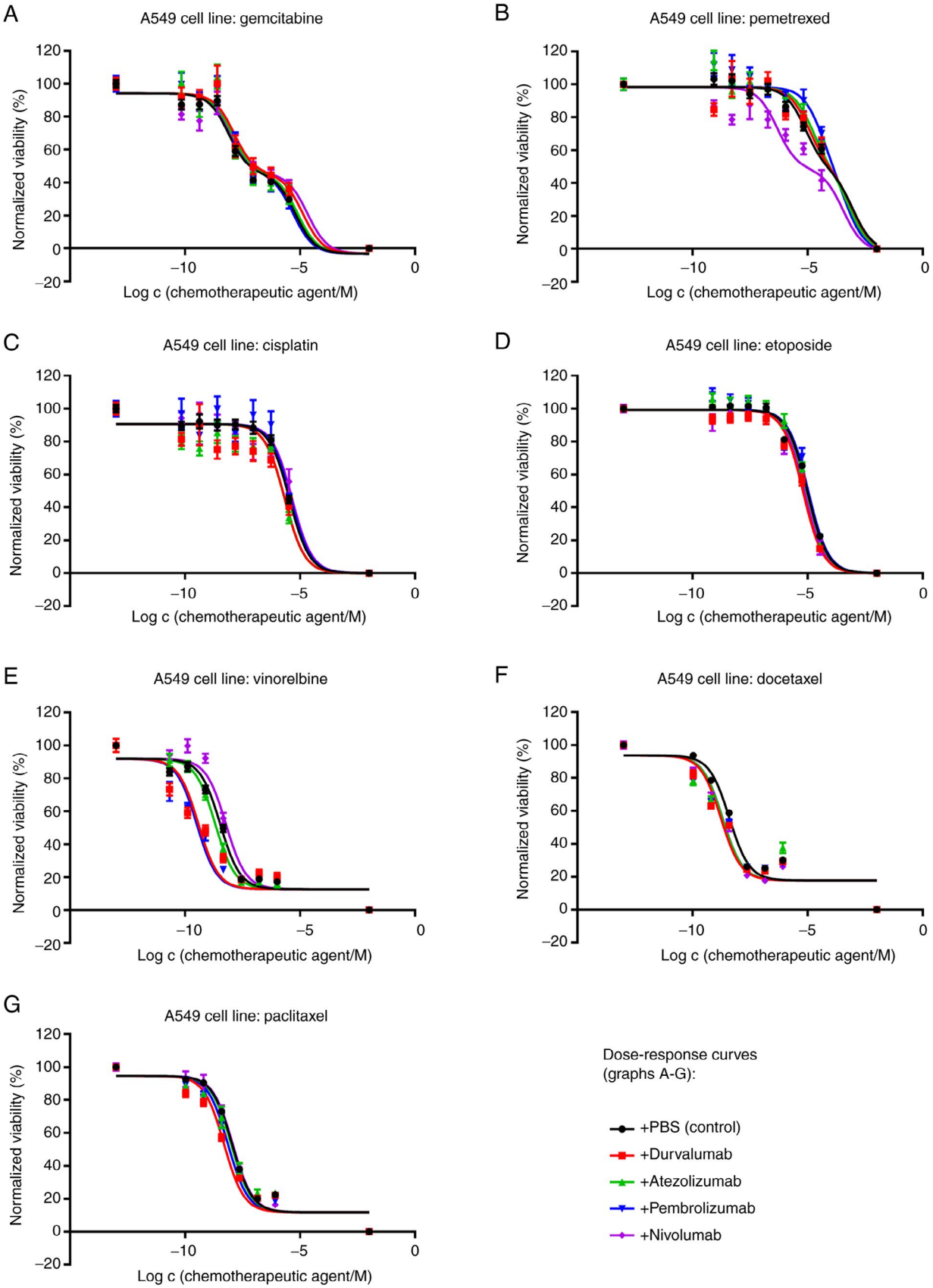

Figure S3. Microscopy images (20x objective) of the immunohistochemically stained (anti-PD-L1) paraffinized A549 cell line pellets. Treatments: (A) 48 h treatment with durvalumab (final concentration of 0.49 mg/ml); (B) 48 h treatment with cisplatin (1 μM); (C) 48 h treatment with durvalumab and cisplatin mixture (concentrations as in A and B); (D) 48 h treatment with docetaxel (5 nM); (E) 48 h treatment with docetaxel and durvalumab (concentrations as in A and D). In each panel, a representative image from a single experiment is shown. Scale bar: 50 μm.

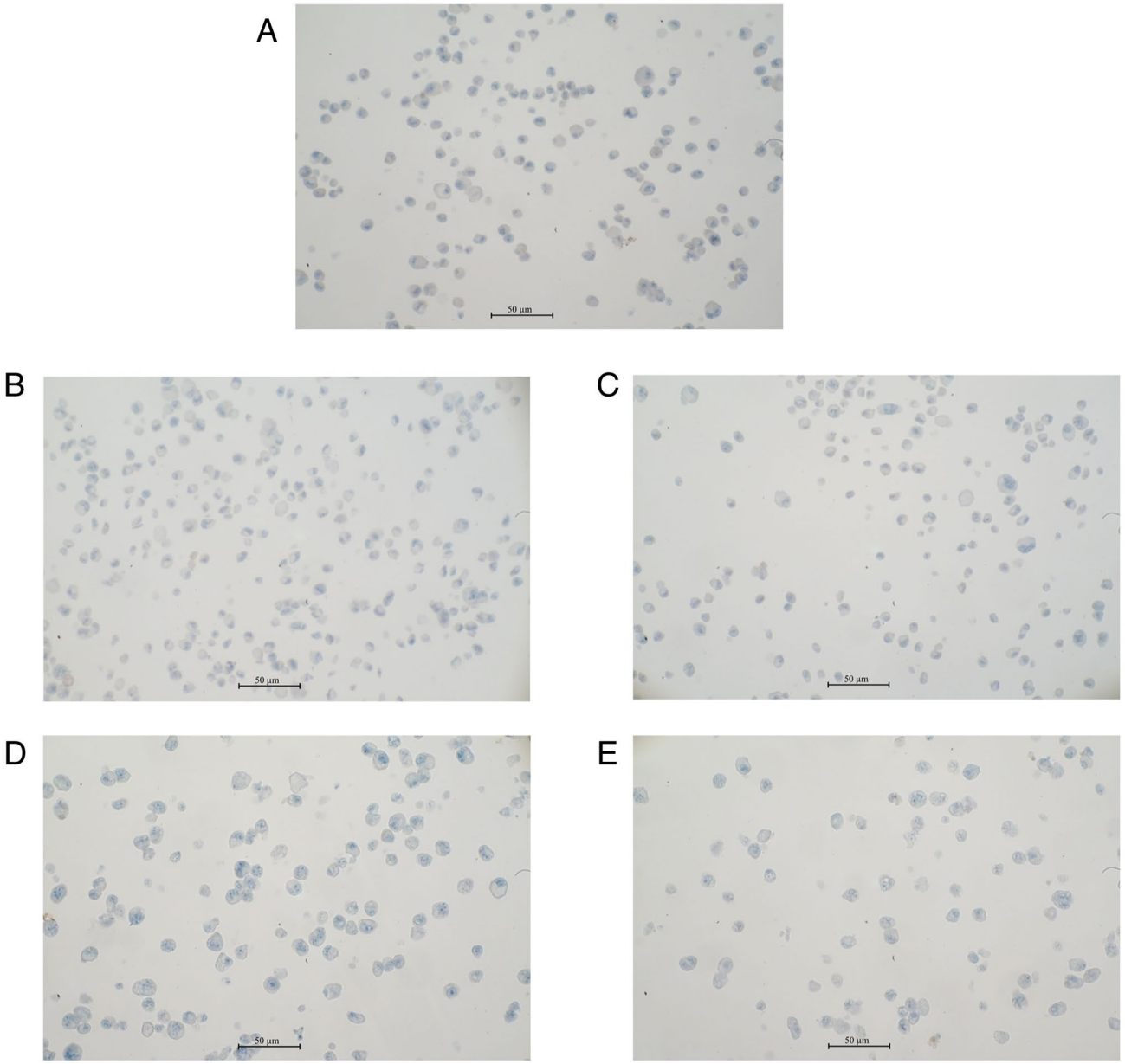

Figure S4. Microscopy images (20x objective) of the immunohistochemically stained (anti-PD-L1) paraffinized HCC-44 cell line pellets. Treatments: (A) 48 h treatment with durvalumab (final concentration of 0.49 mg/ml); (B) 48 h treatment with cisplatin (1 μM); (C) 48 h treatment with durvalumab and cisplatin mixture (concentrations as in A and B); (D) 48 h treatment with docetaxel (5 nM); (E) 48 h treatment with docetaxel and durvalumab (concentrations as in A and D). In each panel, a representative image from a single experiment is shown. Scale bar: 50 μm.

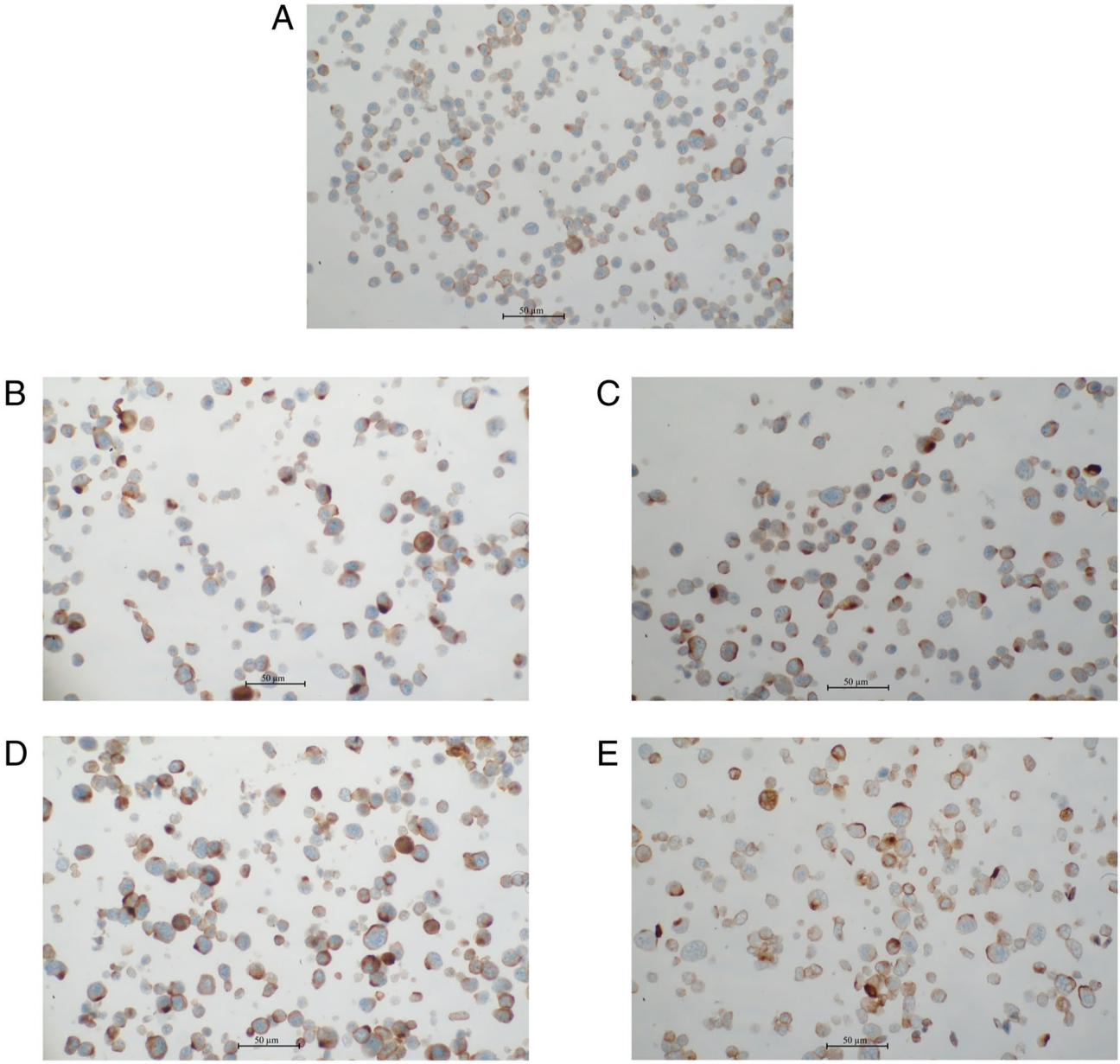

Figure S5. Scatter plots showing results of γH2AX immunostaining in the HCC-44 cell line following treatment with different concentrations of chemotherapeutic agents or their mixtures with durvalumab (0.49 mg/ml). Treatments: (A) gemcitabine ± D; (B) pemetrexed ± D; (C) cisplatin ± D; (D) docetaxel ± D; (E) paclitaxel ± D; (F) vinorelbine ± D. Negative control (PBS) and durvalumab-only treatment are also shown in each graph. In graphs, each colored circle represents an individual nucleus; black line shows population median. The dashed frames show the treatments chosen for assessment of the durvalumab effect on chemotherapeutic agent. Each graph shows data from 3 independent experiments. D, durvalumab.

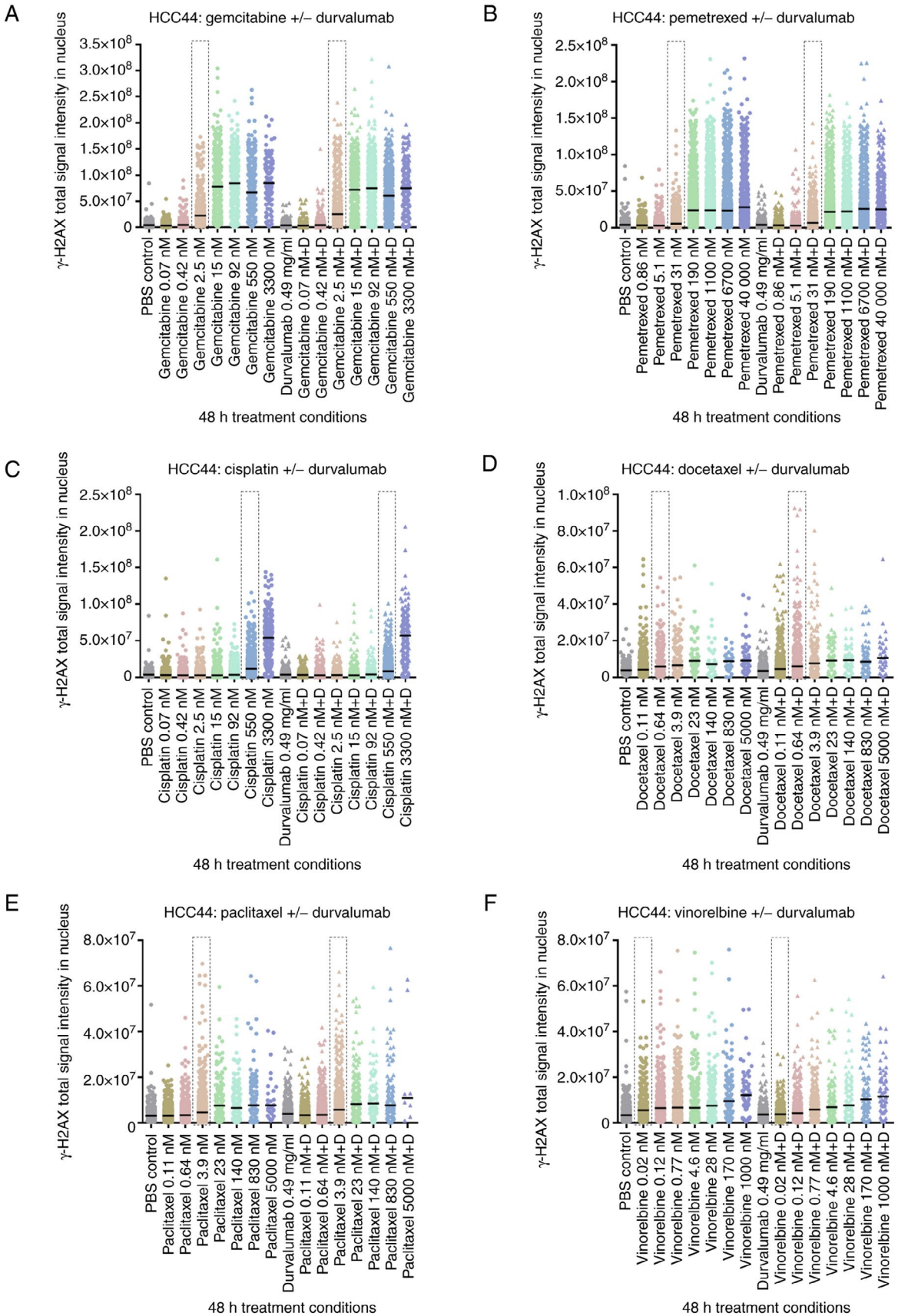

Figure S6. Scatter plots showing results of γH2AX immunostaining in the A549 cell line following treatment with different concentrations of chemotherapeutic agents or their mixtures with durvalumab (0.49 mg/ml). Treatments: (A) gemcitabine ± D; (B) pemetrexed ± D; (C) cisplatin ± D; (D) docetaxel ± D; (E) paclitaxel ± D; (F) vinorelbine ± D. Negative control (PBS) and durvalumab-only treatment are also shown in each graph. In graphs, each colored circle represents an individual nucleus; black line shows population median. The dashed frames show the treatments chosen for assessment of the durvalumab effect on chemotherapeutic agent. Each graph shows data from 3 independent experiments. D, durvalumab.

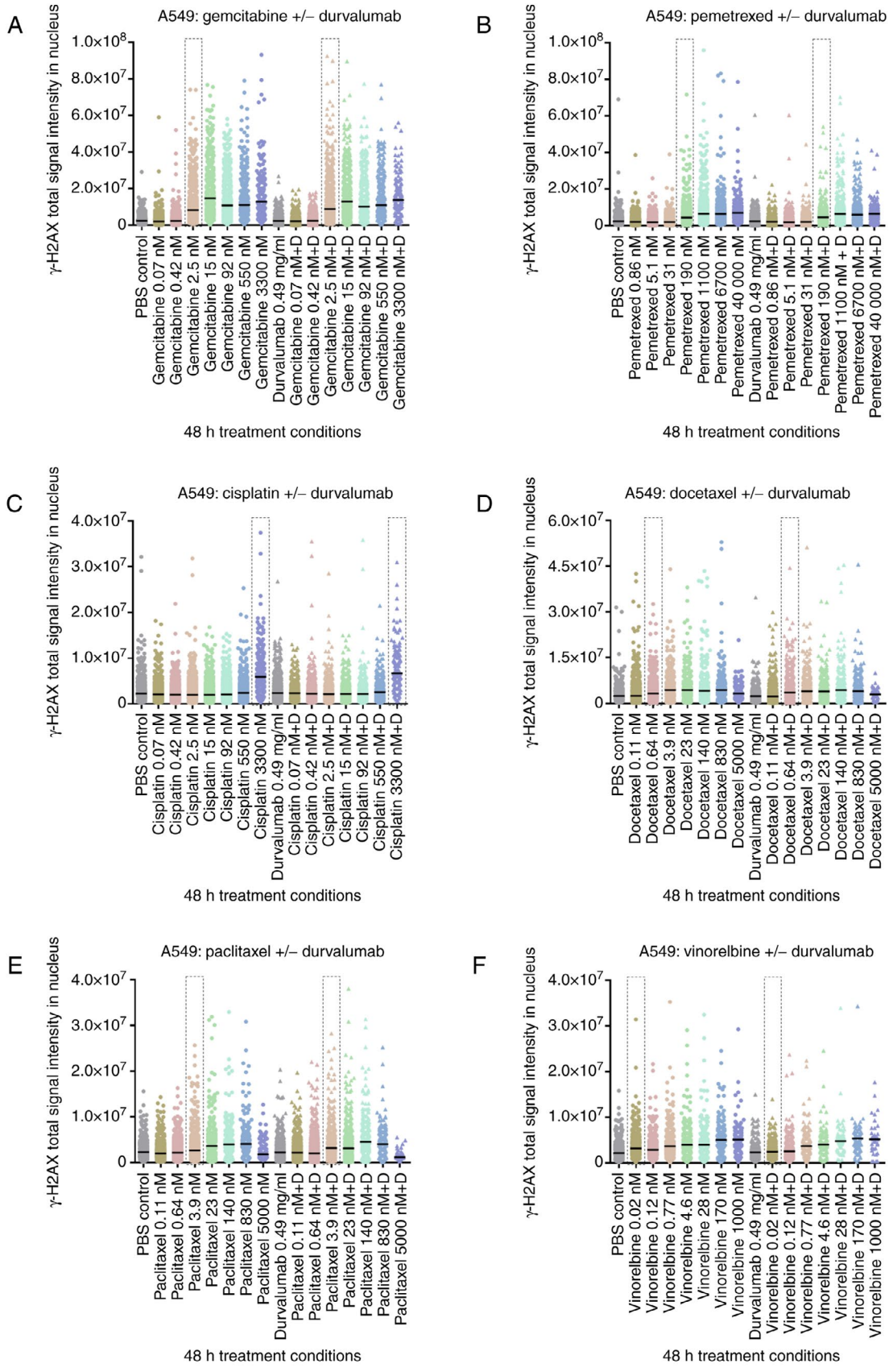

Figure S7. Example microscopy images in the HCC-44 cell line following treatment with the highest concentrations of three chemotherapeutic agents used in this study. Treatments: (A and B) negative control (PBS); (C and D) gemcitabine (3.3 μM); (E and F) pemetrexed (40 μM); (G and H) cisplatin (3.3 μM). Optical channels: A, C, E and G-DNA staining in nuclei by DAPI (blue); B, D, F and H-γH2AX staining in nuclei by selective antibody and secondary antibody (conjugated with Alexa Fluor® 568; red). Scale bar: 50 μm. The images show data from a single representative experiment. Note the significant extent of cellular death (the initial cell seeding density prior to treatment was equal for all conditions).