



Figure S2. EGFR overexpressing tumors respond after 1 week of treatment by H&E staining and IHC for total EGFR, phospho-EGFR, and Ki-67. Representative morphology of tumors, EGFR/pEGFR immunohistochemistry, and proliferation (Ki-67) of lung lesions in vehicle, BIBW 2992, rapamycin, or BIBW 2992 + rapamycin treated mice are shown. Lung lesions were induced with doxycycline feed for 4 weeks followed by 1 week of the indicated treatment. After 1 week of vehicle treatment the diffuse severe proliferative lung lesions ranged from atypical adenomas to carcinomas. One week of drug treatment resulted in a significant reduction in lesion severity with BIBW 2992 and rapamycin treatments having only occasional atypical adenomas and multifocal atypical hyperplasia. The combination of BIBW 2992 + rapamycin resulted in an even greater reduction in lesion severity with only multifocal regions of atypical hyperplasia and rare small atypical adenomas. The dramatic reduction in proliferating cells is evident with the decrease in % of Ki-67 positive nuclei as well as the number of transformed cells expressing total and phospho-EGFR. Scale bar = 100µm.