



**Supplementary Figure S2. Patient derived EGFR exon 20 insertion mutation cell line characterization. A)** Schematic of EGFR structure indicating the localization of exon 20 insertion mutations identified in our patient derived cell lines (CUTO14, CUTO17, and CUTO18). EGFR exon 20 insertion mutation cell lines were transduced with one of two different shEGFR (shEGFR#1 or shEGFR#2) or with non-targeted shRNA (NTC); **B)** Immunoblot of lysates collected at 72 hours post-transduction demonstrating reduction in EGFR protein levels. **C)** proliferation was monitored by IncuCyte live-cell imaging system continuously for 80 hours. Cell growth is expressed as an increase in percentage of confluence. As a control for shEGFR specificity, a cell line harboring an *ALK* fusion (H2228) was used.