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Supplementary Information



Fig. S1 In vitro check of synergistic effect of EGF and EGFR (WST-1, n=3, columns with different letters are significantly different according to one-way ANOVA and Duncan's test, p = 0.0001)





Fig. S2 Morphology and proliferation assay of Chitosan-PEI (various concentrations) (a) WST-1 assay (n=3, p < 0.05, columns with different letters are significantly different according to one-way ANOVA and Duncan's test). (b) Cell morphology on chitosan patch including various concentrations of PEI, scale bars of fig = 100 μ m.



Fig. S3 Morphology and proliferation assay of various CPs (CP, E-CP, Er-CP, EEr-CP, P-CP, EP-CP, **ErP-CP**, and **EErP-CP**) (a) WST-1 assay (n=3, p < 0.05, columns with different letters are significantly different according to one-way ANOVA and Duncan's test). (b) Cell morphology on various CPs, scale bars of fig = 100 μ m.



Fig. S4 Fluorescence images showing cell adhesion on various CPs (CP, E-CP, Er-CP, EEr-CP, P-CP, EP-CP, ErP-CP, and EErP-CP), (scale bars of fig = $100 \ \mu m$)



Fig. S5 Wound healing assay a) CP, b) E-CP, c) Er-CP, d) EEr-CP, e) P-CP, f) EP-CP, g) ErP-CP, and h) EErP-CP (scale bars of fig = $100 \ \mu$ m).



Fig. S6 EGFR protein expression (a) EGFR expression levels of various CPs. (b) GAPDH expression levels of various CPs. (c) EGFR/GAPDH levels of various CPs (n=3, p < 0 .05, columns with different letters are significantly different according to one-way ANOVA and Duncan's test)





Fig. S7 Induced cell morphology on CPs and viability assay for various CPs (CP, E-CP, Er-CP, EEr-CP, P-CP, EP-CP, ErP-CP, and EErP-CP) on cells. (a) WST-1 assay (n=3, p < 0.05, columns with different

letters are significantly different according to one-way ANOVA and Duncan's test). (b) Induced cell morphology of various CPs, scale bars of fig = $100 \mu m$.