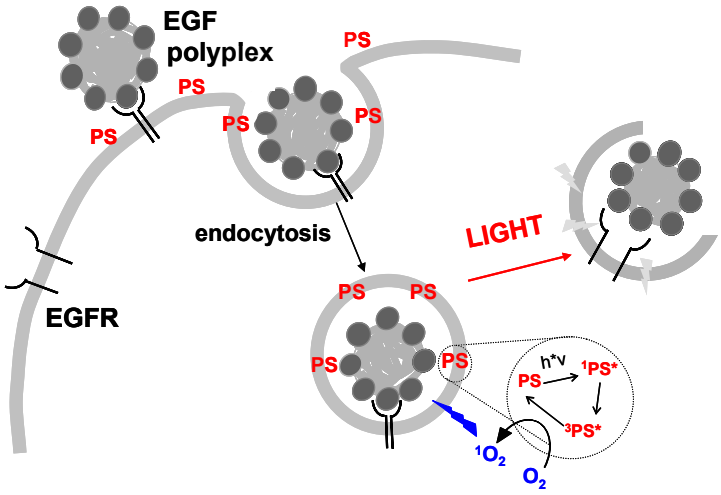
Photochemical intracellular release of EGF polyplexes



Photochemical intracellular release of EGF polyplexes
Amphiphilic photosensitizers (PS) are localized into membranes of the endocytic compartment. EGF polyplexes bind to the EGFR and enter the cell by receptor-mediated endocytosis. After illumination of cells, the membrane associated PS is activated and transfers its energy to molecular oxygen generating radical singlet oxygen. ($^1O_2$) $^1O_2$ leads to oxidative damage of endocytic membranes, resulting in the rupture of the vesicular membrane and therefore promotes the release of EGF polyplexes into the cytosol.

Further reading:

Kloeckner J, Prasmickaite L, Hogset A, Berg K, Wagner E. Photochemically enhanced gene delivery of EGF receptor-targeted DNA polyplexes. J Drug Target. 2004 May;12(4):205-13.