Cell specific targeting PLGA - hyaluronic acid (HA) complex as drug carrier for cancer therapy: in vitro study

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This work has an objected to advance a HA-PLGA conjugated nanoparticle for cancer therapy that effective targeted and drug released breast cancer cell. Polymeric prodrug was prepared as a model drug carrier and HA was surface conjugated to grant receptor mediated targeting moiety to express CD44 of breast cancer cell lines. HA was successfully conjugated on PLGA nanoparticle these chemically conjugated HA-PLGA nanoparticles were compared to the ones prepared by nanoprecipitation. In comparison with HA-PLGA/np, HA-PLGA/conj nanoparticles exhibited superior colloidal stability and higher HA fixation amount. We demonstrated that for both HA-PLGA/conj and HA-PLGA/np. Furthermore, HA-PLGA/conj was more efficiently bind to CD 44 receptors than that of HA-PLGA/np. The drug release profiles of HA-PLGA nanoparticles showed more sustained drug release in comparison to pure PLGA nanoparticles without distinct difference between HA-PLGA/conj and HA-PLGA/np.

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