

Bioengineered yeast derived lysosome as nanocarrier for cancer therapy

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Recent decades, there are advancements in field of synthetic nanomaterials for cancer therapy. Despite the progress of synthetic nanomaterials for cancer therapy, there are immunological problems and engineering limitations. So we study biologically derived nanocarriers come from recombinant yeast that overcome such hurdles. *Saccharomyces cerevisiae* contains vacuoles corresponding to lysosomes that have similar to the lipid composition of mammalian cell membranes, efficiently release of drug into tumor tissues. We genetically modified yeast gene for nanosized and load daunorubicin which used in treating acute myeloid leukemia. These intended lysosomes release the drug into cultured cancer cells. According to this study we make sure that bioengineered lysosomes can be more safe and potent drug carrier. This research was supported by Basic Science Research Program through the National Research Foundation of Korea(NRF) funded by the Ministry of Science, ICT & Future Planning(2017R1A2B4009775).