的荧光强度显著强于转铁蛋白修饰脂质体和RGD修饰脂质体。综上,TF/RGD-LP是一种潜在的高效肿瘤靶向给药系统。

参考文献:

[1] Qin Y, Chen H, Zhang Q, *et al*. Liposome formulated with TAT-modified cholesterol for improving brain delivery and therapeutic efficacy on brain glioma in animals[J]. Int J Pharm, 2011, 420(2): 304-312.

[2] Shah N, Chaudhari K, Dantuluri P, *et al*. Paclitaxel-loaded PLGA nanoparticles surface modified with transferrin and Pluronic ((R)) P85, an *in vitro* cell line and *in vivo* biodistribution studies on rat model [J]. J Drug Target, 2009, 17(7): 533-542.

[3] Schiffelers R M, Molema G, ten-Hagen T L, *et al*. Ligand-targeted liposomes directed against pathological vasculature[J]. J Liposome Res, 2002, 12(1/2): 129-135.

[4] Xiong X B, Huang Y, Lu W L, *et al*. Enhanced intracellular uptake of sterically stabilized liposomal Doxorubicin *in vitro* resulting in improved antitumor activity *in vivo*[J]. Pharm Res, 2005, 22(6): 933-939.

[5] Oba M, Fukushima S, Kanayama N, *et al*. Cyclic RGD peptide-conjugated polyplex micelles as a targetable gene delivery system directed to cells possessing alphavbeta3 and alphavbeta5 integrins[J]. Bioconjug Chem, 2007, 18(5): 1415-1423.

[6] Ying X, Wen H, Lu W L, *et al*. Dual-targeting daunorubicin liposomes improve the therapeutic efficacy of brain glioma in animals[J]. J Controlled Release, 2010, 141(2): 183-192.

[7] Gan C W, Feng S S. Transferrin-conjugated nanoparticles of poly(lactide)-D-alpha-tocopheryl polyethylene glycol succinate diblock copolymer for targeted drug delivery across the blood-brain barrier[J]. Biomaterials, 2010, 31(30): 7748-7757.

[8] Ulbrich K, Hekmatara T, Herbert E, *et al*. Transferrin- and transferring-receptor- antibody-modified nanoparticles enable drug delivery across the blood-brain barrier (BBB)[J]. Eur J Pharm Biopharm, 2009, 71(2): 251-256.

[9] Kuai R, Yuan W, Li W, *et al*. Targeted delivery of cargoes into a murine solid tumor by a cell-penetrating peptide and cleavable poly(ethylene glycol) comodified liposomal delivery system *via* systemic administration[J]. Mol Pharm, 2011, 8(6): 2151-2161.

[10] Kuai R, Yuan W, Qin Y, *et al*. Efficient delivery of payload into tumor cells in a controlled manner by TAT and thiolytic cleavable PEG co-modified liposomes[J]. Mol Pharm, 2010, 7(5): 1816-1826.

[11] Zhang L, Zhang L F. Lipid-polymer hybrid nanoparticles: synthesis, characterization and applications[J]. Nano LIFE, 2010, 1(1/2): 163-173.

[12] Jiang X, Xin H, Gu J, *et al*. Solid tumor penetration by integrin-mediated pegylated poly(trimethylene-carbonate) nanoparticles loaded with paclitaxel[J]. Biomaterials, 2013, 34(6): 1739-1746.

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(编辑 张 维)

2014年度第三军医大学国家自然科学基金申报工作再创佳绩

2014年,我校基金申报工作再创佳绩。根据国家自然科学基金委员会网站公布的2014年度国家自然科学基金项目资助情况,截至目前,全校共中标各类项目242项(项目经费约1.44亿元),获批项目数和经费数均为历史最好成绩之一。其中包括重点项目6项、优秀青年科学基金项目2项、面上项目139项、青年科学基金项目92项。

获得国家自然科学基金资助情况是反映大学办学水平的重要指标之一。近年来,在校党委"实施一流发展战略,建设世界医学名校"总体办学思路的引领下,各级科研管理部门主动作为,始终聚焦生物医学前沿,努力提高科研绩效,着力推动内涵发展,基金工作不断取得新的进步,在支撑学科人才建设、提升综合办学水平等方面发挥了十分重要的作用。根据国家自然科学基金委员会的统计,今年我校获批项目数居全国医科院校第1位,在全国科研单位排名中列第22位。

下一步,学校将按照国家科技计划改革的要求,进一步加强包括科学基金在内的各级各类科研课题过程管理,重点抓好开题论证、中期检查等环节,不断提高课题完成质量,产出更多高水平研究成果,为加快推进一流名校建设做出更大贡献。

科研部组织计划处 供稿