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## Synergistic effect of combination <sup>188</sup>Re-liposome and lipotecanin Huh-7 subcutaneous xenograft model

Po-Yen Liu

Institute of Nuclear Energy Research, Taiwan

The aim of this study was to investigate the therapeutic efficacy of the combination of lipotecan and <sup>188</sup>Re-liposome in Huh-7 xenograft tumor model. The Huh-7 subcutaneous transplantation tumor animal model was established to evaluate the antitumor activity of <sup>188</sup>Re-liposome combined with lipotecan (<sup>188</sup>Re-liposome + lipotecan) treatment compared with monotherapy (<sup>188</sup>Re-liposome or lipotecan). Mice were administered via intravenous injection with <sup>188</sup>Re-liposome (8.65 MBq, 2/5 maximum tolerated dose (MTD), lipotecan (48 mg/kg, 2/5MTD) and normal saline as blank control. To evaluate the targeting and localization of <sup>188</sup>Re-liposome in Huh-7 tumor-bearing mice, biodistribution was performed. Tumor growth and body weight were measured to evaluate the antitumor effect. After intravenous administration of <sup>188</sup>Re-liposome, radioactivity in tumors was  $2.03 \pm 0.46$  %ID/g at 24 h, the tumor/muscle ratios is  $6.35 \pm 0.88$  at 24 h. In the study on therapeutic efficacy, the tumor-bearing mice treated with <sup>188</sup>Re-liposome + Lipotecan group showed better mean tumor growth inhibition rate (MGI=0.36, n=6) than those treated with radiotherapeutics of <sup>188</sup>Re-liposome (MGI=0.681, n=6) and chemotherapeutics of lipotecan (MGI=0.717, n=6). The synergistic tumor regression effect was observed with the combination index (CI) exceeding 1 (CI=1.356) for combination therapy. These results suggest that lipotecan may be usefully integrated into the <sup>188</sup>Re-liposome treatment of Huh-7 tumors, with potential benefits resulting from increased tumor cell radiosensitization to preferential targeting of tumor-associated vasculature.

### Biography

Po-Yen Liu has completed his PhD at the age of 30 years from China Medical University and postdoctoral studies from Institute of Nuclear Energy Research. He has published more than 9 papers in reputed journals.

[kaisqoo@gmail.com](mailto:kaisqoo@gmail.com)