

若手の会 ポスター発表 | 若手の会ポスター発表

📅 2025年8月28日(木) 9:00 ~ 18:00 📍 ポスター4Fロビー(4F ロビー)

[P107-P159] 「若手の会」および「国際ポスター賞」

8月28日(木) 9:00~18:00 (17:30撤収)

8月28日(木) 13:15~14:00 討論タイム (ポスター番号偶数番号)

8月28日(木) 14:00~14:45 討論タイム (ポスター番号奇数番号)

[P156] Fabrication Characterization and Stability of Paclitaxel/bovine serum albumin/ chitosan nanoparticles

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キーワード：パクリタキセル、分子自己組織化、キトサン

【Purpose】 Paclitaxel (PTX) is a highly effective natural anticancer drug. However, its poor water dispersion and chemical instability limit its application. It can be improved by constructing polysaccharides-protein nanocarriers and encapsulating PTX, enhancing the bioavailability and expanding its application in the fields of food and biomedicine.

【Methods】 The natural biological macromolecules chitosan(CS) and bovine serum albumin (BSA) was chosen as wall materials to form nanoscale delivery systems by molecular self-assembly method. The hydrated size, zeta potential and morphological observations of PTX/BSA/CS nanoparticles (PBC-NPs) were investigated by DLS, TEM and SEM, respectively. Spectroscopies were investigated so as to explore the structural changes of the components after the formation of the nanoparticles. The *in vitro* drug release of PBC-NPs was explored via SIF and SGF .

【Results】 The hydrated particle size and zeta potential of PBC-NPs were around 216 ± 8 nm and 31.3 ± 1.4 mV, respectively. Under the electron microscopes, it formed a nearly regular spherical shape and was uniformly dispersed. The encapsulation efficiency and loading capacity reached 80% and 40%, respectively. Spectroscopy studies indicated that CS and BSA formed hydrophobic microdomain and secondary structure in BSA changed. PBC-NPs were stable within 48 h at 4°C, 25°C, 37°C. The content of astaxanthin was determined by HPLC, and the results showed that PTX was released stably in SIF and SGF. In conclusion, PTX was encapsulated by BSA-CS nanocarrier successfully.