

Physicochemical Properties of Paclitaxel Conjugate with Albumin

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We have developed the water-soluble paclitaxel based on PEG conjugates with a newly developed self-immolating group. A study on water-soluble derivatives that improve the solubility of various poorly soluble drugs including paclitaxel is very effective through polymer-modification. It is very important for intravenous drug administration. The conformation and mobility of the polymer chains have an important effect on the transport properties of the polymer-drug conjugates in aqueous solution. Therefore, we have investigated the interaction of water-soluble paclitaxel conjugate (7-mPEG5,000-succinyloxymethyloxycarbonyl-paclitaxel) and serum proteins by pulse-gradient field NMR. Diffusion coefficient was measured as a function of paclitaxel conjugate and albumin concentration at different temperatures. Circular dichroism spectra of the mixture of paclitaxel conjugate and albumin were measured from 200–350 nm.