عنوان مقاله:

Solid lipid nanoparticles containing Fomes fomentarius exopolysaccharides: Optimization and invitro evaluation

محل انتشار:

اولین همایش بین المللی علوم و فناوری نانو (سال: 1399)

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خلاصه مقاله:

Solid lipid nanoparticles (SLNs) which are made using lipids known to be safe and not melting at room temperature. The size of these particles is between 50 and 1000 nm. Due to the increasing use of natural substances such as fungal metabolites, the researchers began to produce nanoparticles with these metabolites. Polysaccharides are the strongest fungal compounds that have anti -tumor, antioxidants and immune enhancement properties. In this study, using Fomes fomentarius exopolysaccharides (EPS), we developed a solid lipid nanoparticle with stearic acid. The results showed that by optimizing the production conditions of the nanoparticles, can reduce the size of the nanoparticle and improve the zeta potential in it. Surfactant (%) has a significant effect ($p < 0.05$) on the production of EPS-SLN nanoparticles, and optimally (drug/lipid: 0.06, surfactant 7.92%), the size of this nanoparticle is 271 nm and its zeta potential is -48.6. The results showed drug encapsulation efficiency (EE) was 91%, and loading efficiency (LE) .was 6.8%. Furthermore, in vitro release studies showed a sustained release of EPS from EPS-SLNs

کلمات کلیدی:

.Nanoparticle, SLN, Fomes fometarius, EPS