Uji inhibisi dan profil pelepasan nanopartikel ekstrak daun keji beling (strobilanthes crispus) untuk sediaan obat antihiperkolesterolemia = Inhibition and released profile assay of nasty shard nanoparticle leaves extract strobilanthes crispus as drug dosage formulation of antihypercholesterolemia

Desna Qurratul Aini, author

Abstrak

[ABSTRAK
 Keji Beling (Strobilanthes crispus) merupakan salah satu tanaman yang dapat dimanfaatkan sebagai antihiperkolesterolemia dengan senyawa aktif fitosterol. Pembuatan nanopartikel keji beling sebagai penghantar obat dilakukan untuk mencapai efektivitas obat menuju organ target. Penelitian ini bertujuan mendapatkan gambaran profil pelepasan nanopartikel keji beling pada media fluida sintetik dengan variasi konsentrasi penyalutnya serta pengujian inhibisi ekstrak keji beling dalam menghambat enzim HMG KoA Reduktase. Penelitian terdiri atas 4 tahap yaitu ekstraksi keji beling, pembuatan nanopartikel, uji profil pelepasan serta uji inhibisi enzim HMG koA Reduktase. Penelitian ini menghasilkan nanopartikel dengan efisiensi penyalut terbesar(94,64%) pada Kitosan 1% : STPP 1%, dan loading capacity terbesar (31,28%) diperoleh pada variasi Kitosan 1% :1,5%. Profil pelepasan dengan karakter penyalut yang resisten pada kondisi lambung diperoleh oleh variasi Kitosan 1%:1,5%. Determinasi analitis secara FTIR membuktikan bahwa ekstrak telah tersalut dalam penyalutnya yang dibuktikan dengan adanya gugus alkohol. Morfologi FESEM dengan ukuran partikel terkecil diperoleh pada variasi kitosan 1%: STPP 1% dengan ukuran terkecil 132 nm. Penurunan kadar kolesterol oleh daun keji beling terjadi melalui penghambatan enzim HMG KoA Reduktase. Penelitian ini membuktikan bahwa ekstrak keji beling mampu berperan sebagai inhibitor dalam menghambat enzim HMG-KoA dengan persentase inhibisi 15%-17,8%.<hr>
ABSTRACT Nasty Shard (Strobilanthes crispus) is one of herbs that utilized as antihypercholesterolemia with phytosterol as active compound. Producing nanoparticle of nasty shard as drug delivery is to obtain efectiveness drug to released target. This research was design to obtain released profile assay of nasty shard nanoparticle in simulated digestive fluid with concentration variation of nanoparticle and inhibition assay of nasty shard extract to inhibit HMG CoA Reductase.This resarch consist of 4 stages those are extraction of nasty shard leaves, nanoparticle designed, release profile assay and inhibition assay of HMG CoA Reductase. This research produce nanoparticle with highest encapsulation efficiency (94,64%) obtained by chitosan concentration 1% and STPP 1%, while the highest loading capacity (31,28%) was obtained by chitosan concentration 1% and STPP 1,5%. Released profile assay show nanoparticle characteristic which resistant in gastric condition with chitosan consentration 1% and STPP 1,5%. FTIR analysis show extract has encapsulated by alcohol group. Morphology by FESEM of smallest particle sized (132 nm) Obtained by chitosan concentartion 1% and STPP 1,5%. The decreasing of cholesterol by extract through inhibit HMG CoA Reductace. This research shown nasty shard leaves extract is capabable of acting as inhibitor of HMG CoA Reductase enzime with percentage inhibition from15%-17,8%
;Nasty Shard (Strobilanthes crispus) is one of herbs that utilized as antihypercholesterolemia with

phytosterol as active compound. Producing nanoparticle of nasty shard as drug delivery is to obtain efectiveness drug to released target. This research was design to obtain released profile assay of nasty shard nanoparticle in simulated digestive fluid with concentration variation of nanoparticle and inhibition assay of nasty shard extract to inhibit HMG CoA Reductase.This resarch consist of 4 stages those are extraction of nasty shard leaves, nanoparticle designed, release profile assay and inhibition assay of HMG CoA Reductase. This research produce nanoparticle with highest encapsulation efficiency (94,64%) obtained by chitosan concentration 1% and STPP 1%, while the highest loading capacity (31,28%) was obtained by chitosan concentration 1% and STPP 1,5%. Released profile assay show nanoparticle characteristic which resistant in gastric condition with chitosan consentration 1% and STPP 1,5%. FTIR analysis show extract has encapsulated by alcohol group. Morphology by FESEM of smallest particle sized (132 nm) Obtained by chitosan concentartion 1% and STPP 1,5%. The decreasing of cholesterol by extract through inhibit HMG CoA Reductace. This research shown nasty shard leaves extract is capabable of acting as inhibitor of HMG CoA Reductase enzime with percentage inhibition from15%-17,8%
, Nasty Shard (Strobilanthes crispus) is one of herbs that utilized as antihypercholesterolemia with phytosterol as active compound. Producing nanoparticle of nasty shard as drug delivery is to obtain efectiveness drug to released target. This research was design to obtain released profile assay of nasty shard nanoparticle in simulated digestive fluid with concentration variation of nanoparticle and inhibition assay of nasty shard extract to inhibit HMG CoA Reductase.This resarch consist of 4 stages those are extraction of nasty shard leaves, nanoparticle designed, release profile assay and inhibition assay of HMG CoA Reductase. This research produce nanoparticle with highest encapsulation efficiency (94,64%) obtained by chitosan concentration 1% and STPP 1%, while the highest loading capacity (31,28%) was obtained by chitosan concentration 1% and STPP 1,5%. Released profile assay show nanoparticle characteristic which resistant in gastric condition with chitosan consentration 1% and STPP 1,5%. FTIR analysis show extract has encapsulated by alcohol group. Morphology by FESEM of smallest particle sized (132 nm) Obtained by chitosan concentartion 1% and STPP 1,5%. The decreasing of cholesterol by extract through inhibit HMG CoA Reductace. This research shown nasty shard leaves extract is capabable of acting as inhibitor of HMG CoA Reductase enzime with percentage inhibition from15%-17,8%
]