

## INTISARI

Buah mengkudu (*Morinda citrifolia* L.), daun seledri (*Apium graveolens* L.), dan daun kumis kucing (*Orthosiphon aristatus* (Bl.) Miq.) telah diketahui memiliki aktivitas sebagai antihipertensi. Campuran ketiga ekstrak dibuat menjadi bentuk sediaan tablet. Penelitian ini bertujuan untuk mengetahui komposisi optimum Avicel® PH 102 sebagai bahan pengisi dan Explotab® sebagai bahan penghancur dan pengaruh variasi keduanya terhadap sifat fisik tablet serta senyawa aktif ekstrak meliputi sinensetin, skopoletin, dan apigenin dalam sediaan.

Ekstrak dibuat dengan metode maserasi menggunakan pelarut etanol 70%. Tablet dibuat dengan metode granulasi basah dalam delapan formula berdasarkan *Simplex Lattice Design* (SLD). Tablet diuji sifat fisiknya meliputi kekerasan, kerapuhan, waktu hancur, dan daya serap air. Keempatnya merupakan parameter untuk mendapatkan formula optimum. Kadar relatif ketiga senyawa aktif dalam sediaan dianalisis secara semi-kuantitatif dengan metode KLT-densitometri.

Hasil penelitian menunjukkan bahwa penambahan Avicel® PH 102 meningkatkan kekerasan, meningkatkan daya serap air, dan mengurangi kerapuhan; sedangkan penambahan Explotab® meningkatkan kekerasan, mengurangi kerapuhan dan mengurangi daya serap air. Variasi keduanya tidak mempengaruhi waktu hancur tablet. Formula optimum tablet memiliki komposisi Avicel® PH 102 182 mg dan Explotab® 13 mg tiap tablet. Variasi Avicel® PH 102 dan Explotab® mempengaruhi senyawa aktif dalam sediaan.

**Kata kunci: Tablet, Mengkudu, Seledri, Kumis Kucing**

## ABSTRACT

Noni (*Morinda citrifolia* L.), celery (*Apium graveolens* L.), and cat's whiskers (*Orthosiphon aristatus* (Bl.) Miq.) are known as an antihypertensive agent. The mixture of three extracts were made into a tablet dosage form. This research aims to determine the optimum composition of Avicel® PH 102 as the filler and Explotab® as the disintegrant; and the effect of both variation (Avicel® PH 102 and Explotab®) against the tablet's physical properties along with the extract active compounds such as sinensetin, scopoletin, and apigenin.

Extracts were made by using maceration method with the used of ethanol 70% as a solvent. Tablets were made by wet granulation method in eight formulas based on Simplex Lattice Design (SLD). Tablet's physical properties were tested, which consist of hardness, friability, and disintegration time, and water absorption. All of the physical properties are the parameters to get the optimum formula. Relative concentration of the active compounds in the tablet were analyzed semi-quantitatively with TLC-densitometry method.

The results showed that by adding Avicel® PH 102, it increases the hardness, improves water absorption, and reduces friability; while by adding Explotab®, it increases the hardness, reduces friability, and reduces water absorption. Both variation turned out doesn't affect the disintegration time. Optimum formula has a composition 182 mg of Avicel® PH 102 and 13 mg of Explotab® for each tablet. Variations of Avicel® PH 102 and Explotab® affect the active compounds in the tablet.

**Keywords:** Tablet, Noni, Celery, Cat's Whiskers