

INTISARI

Kapsul cacing obat merupakan obat bahan alam yang dipercaya berkhasiat mengobati penyakit tifus, diare, stroke dan trombosis serta berkhasiat sebagai antibakteri dan antipiretik. Kapsul cacing obat mengandung cacing tanah kering yang dikhawatirkan tercemar logam berat timbal apabila dalam pembudidayaannya tidak diperhatikan secara khusus.

Optimasi sistem spektrofotometri serapan atom dan validasi instrumen serta metode analisis dilakukan terlebih dahulu kemudian dilanjutkan dengan penetapan kadar logam berat timbal. Dalam kondisi optimum sistem SSA diperoleh validitas yang baik meliputi presisi dan akurasi yang memenuhi syarat, linearitas dengan koefisien korelasi sebesar 0,9992, *Limit of Detection* sebesar 0,1309 $\mu\text{g/mL}$, dan *Limit of Quantitation* sebesar 4,373 $\frac{\mu\text{g}}{\text{g}}$.

Kadar logam berat timbal (Pb) dalam sediaan kapsul cacing obat tanpa merek sebesar 12,647 $\frac{\mu\text{g}}{\text{g}}$, dimana kadar tersebut melebihi persyaratan BPOM untuk obat bahan alam yaitu $\text{Pb} \leq 10,0 \text{ ppm} (\frac{\mu\text{g}}{\text{g}})$, sedangkan pada sediaan kapsul cacing obat bermerek tidak terdapat cemaran logam berat timbal (Pb).

Kata kunci : timbal, kapsul cacing obat, parameter optimasi, parameter validasi, spektrofotometri serapan atom

ABSTRACT

Medicinal earth-worm capsule is a natural medicine with an antibacteria and antipiretic activity and believed to treat typhus, diarrhea, stroke, and thrombosis. Medicinal earth-worm capsule is made from dried earth-worm which has a risk of lead (Pb) contamination in the ground.

Optimization of atomic absorption spectrophotometry system and validation of both instrument and analysis method were did then the research was continued by the determination of lead heavy metal. When the system of AAS reached the optimum condition, the good validity included good precision and accuracy, linearity (with $r = 0,9992$), Limit of Detection $0,1309 \mu\text{g/mL}$ and Limit of Quantitation $4,373 \frac{\mu\text{g}}{\text{g}}$ were obtained.

Concentration of lead (Pb) on the medicinal earth-worm capsule without brand was $12,647 \frac{\mu\text{g}}{\text{g}}$, which was higher than the concentration set by BPOM for the natural medicine ($\text{Pb} \leq 10,0 \text{ ppm} (\frac{\mu\text{g}}{\text{g}})$). There was no lead (Pb) found in branded medicinal earth-worm capsule.

Kata kunci : Lead, medicinal earth-worm capsule, optimization parameters, validation parameters, atomic absorption spectrophotometry