

Uji aktivitas pertumbuhan rambut stabilitas fisik dan keamanan sediaan hair tonic yang mengandung ekstrak etanol akar manis (*Glycyrrhiza glabra* Linn.) = Hair growth activity physical stability and safety tests study hair tonic preparations containing ethanol extract of liquorice (*Glycyrrhiza glabra* Linn.)

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Abstrak

Kerontokan rambut yang sering diakhiri kebotakan merupakan problema estetik yang sangat dikhawatirkan setiap orang. Akar rimpang tanaman akar manis telah diakui memiliki aktivitas pertumbuhan rambut berdasarkan penggunaan tradisional. Pada penelitian ini, 2,5%, 5% dan 10% ekstrak akar manis diformulasikan dalam bentuk hair tonic karena penggunaannya lebih mudah dan tidak lengket seperti sediaan semisolid. Tujuan penelitian ini adalah untuk mengetahui aktivitas pertumbuhan rambut ekstrak etanol akar manis, stabilitas fisik dan keamanannya. Uji aktivitas pertumbuhan rambut dilakukan dengan mengoleskan sediaan hair tonic pada punggung kelinci dan diukur panjang rambut, ketebalan rambut (diameter rambut), bobot rambut dan kelembatan rambut. Uji stabilitas fisik dilakukan pada penyimpanan suhu rendah ($4^{\circ}\text{C}\pm 2^{\circ}\text{C}$), suhu ruang ($25^{\circ}\text{C}\pm 2^{\circ}\text{C}$) dan suhu tinggi ($40^{\circ}\text{C}\pm 2^{\circ}\text{C}$) serta cycling test. Analisa kuantitatif asam glisirisat dalam ekstrak etanol akar manis dengan spektrofotometer UV menunjukkan kadar sebesar 156,65 mg/g atau 15,665%. Uji keamanan dilakukan dengan uji iritasi mata dengan metode HET-CAM dan uji iritasi kulit dengan metode patch test. Hasil menunjukkan bahwa sediaan hair tonic ekstrak akar manis 5% dan 10% memiliki aktivitas pertumbuhan rambut yang setara dan bahkan lebih baik dibandingkan kontrol positif minoksidil 2%. Hasil uji stabilitas fisik menunjukkan sediaan hair tonic ekstrak akar manis memiliki stabilitas fisik yang baik. Dari hasil uji keamanan iritasi kulit tidak terjadi iritasi, sedangkan hasil uji HET-CAM menunjukkan sediaan mengiritasi ringan pada mata.

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Hair loss which is often terminated to alopecia becomes a very worried aesthetic problem for everyone. Rhizome root of liquorice plant has been recognized to have hair growth activity by traditional use. In this study, 2.5%, 5% and 10% liquorice extract formulated in the form of hair tonic because of its use easier and not sticky like semisolid dosage. The purpose of this study was to determine the hair growth activity of ethanol extract of liquorice, physical stability and safety. Hair growth activity test conducted by rubbing hair tonic preparations on the rabbit's back and measured the hair length, hair thickness, hair weight and hair density. Quantitative analysis of glycyrrhizic acid from ethanol extract of licorice with UV Spectrophotometer showed level about 156,65 mg/g or 15,665%. Physical stability test performed at low temperature storage ($4^{\circ}\text{C}\pm 2^{\circ}\text{C}$), room temperature ($25^{\circ}\text{C}\pm 2^{\circ}\text{C}$) and high temperature ($40^{\circ}\text{C}\pm 2^{\circ}\text{C}$) as well as cycling test. Safety test has done by eye irritation test with HET-CAM method and skin irritation test with patch test method. The results showed that the hair tonic containing liquorice extract 5% and 10% have an equivalent activity of hair growth and even better than the positive control minoxidil 2%. Physical stability test showed that liquorice extract hair tonic has good physical stability. The results of safety test showed with no skin irritation, meanwhile HET-CAM test showed that the hair tonic containing liquorice extract has mild eye irritation.