Uji stabilitas fisik dan aktivitas antioksidan sediaan krim yang mengandung ekstrak umbi wortel (Daucus carota L.) = Physical stability test and antioxidant activity of cream preparation containing extract of carrot root (Daucus carota L.)

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Abstrak

Wortel (Daucus carota L.) memiliki aktivitas antioksidan yang tinggi karena mengandung senyawa antioksidan utama yaitu betakaroten yang merupakan pro vitamin A. Pada penelitian ini, ekstrak wortel diformulasikan menjadi sediaan krim dengan berbagai konsentrasi yaitu 0.5%, 1% dan 2%. Krim diuji kestabilan fisiknya dengan pengamatan organoleptis, penyimpanan krim pada tiga temperatur yang berbeda yaitu suhu rendah 40 C, suhu kamar dan suhu tinggi 40 ± 0 C, uji mekanik atau sentrifugasi, dan cycling test dalam enam siklus.

Pengukuran aktivitas antioksidan menggunakan Metode Peredaman DPPH. Hasil dari pengamatan terhadap krim wortel 0.5%, 1% dan 2%, ketiga krim memiliki kestabilan fisik yang baik setelah disimpan pada suhu rendah 40 C, suhu kamar dan suhu tinggi 40 ± 20 C, uji mekanik dan cycling test. Hasil dari pengukuran aktivitas antioksidan adalah krim wortel 2 % memiliki aktivitas antioksidan tertinggi. Aktivitas antioksidan krim wortel sebelum dan sesudah dipapari sinar UV-A mengalami penurunan yang tidak signifikan.

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Carrot (Daucus carota L.) has a very high anti-oxidant activity due to its anti¬oxidant compound content, beta caroten, which is a pro vitamin A. In this research, carrot extract was formulated into cream with various concentrations: 0.5%, 1% and 2%. The physical stability of those creams were tested by conducting organoleptic observation toward the creams, putting in three different temperatures which were low temperature 4o C, room temperature and high temperature 40 ± 2o C, mechanical or centrifugal test, and cycling test in six cycles.

Antioxidant activity was determined by DPPH radical scavenging method. The stability test results of 0.5%, 1% and 2% carrot creams showed good physical stability after being kept in 4o C, room temperature and high temperature 40 ± 2o C, mechanical test and cycling test. The anti-oxidant activity test using DPPH method showed that 2% carrot cream has the highest value of anti-oxidant activity. The value of anti-oxidant activity of carrot creams before and after having UV-A exposure decreased insignificantly.