# ABSTRACT

***THE EFFECT OF RICE BRAN OIL (Oryza Sativa) COMPOSITION ON PARTICLE SIZE OF COENZIM Q10 NANOPARTICLES CREAM***

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*Coenzyme Q10 is a lipophilic antioxidant compound that is able to recycle other antioxidants such as vitamin E and vitamin C. This is why coenzyme Q10 needs to be formulated for delivery systems in the skin. This study aims to determine the effect of Rice Bran Oil concentration on the particle size of coenzyme Q10 nanoparticle cream as an anti-aging preparation. This research begins with the optimization of 3 different formulas, namely by varying the concentration of Rice Bran Oil 1%, 2%, and 3% of the nanoparticle cream containing the active ingredient coenzyme Q10 as much as 1%. Physical characteristics evaluation was carried out after 24 hours after the preparation was made, the formula nanoparticle cream was stirred using Ultraturax High Shear Homogenizer. Observations were made to test the particle size using a Particle Size Analyzer (PSA). The results of the particle size of each formula have a particle size range of F1 = 89.85-90.18 nm; F2 = 85.83-86.17 nm and F3 = 80.26-83.09 nm. The results of the research on the particle size of each of the resulting formulas are in the size range of 20-200nm. The particle size test results obtained were statistically tested using the Shapiro-Wilk test to see the normality and homogeneity of the data, then the One Way Anova test. From the statistical analysis of One Way Anova, it was found that there was no significant difference ($p>0.05$) in the test group, which means that the increase in the concentration of the liquid lipid variation of Rice Bran Oil had no effect on the particle size of the coenzyme Q10 nanoparticle cream.*

**Keywords** : *Rice Bran Oil, Koenzim Q10, Nanoparticle, Particle Size*