

## ABSTRACT

**The Effect of Quercetin-Succinic Acid Cocrystal  
with Solvent Drop Grinding Method on Solubility and Dissolution Rate**

Tutik

Quercetin is one of compound from flavonoid classification which pharmacology activity as antioxidant, anticarcinogenic, cardioprotective, bacteriostatic, and antiviral. On the one hand quercetin has benefits in pharmacological aspect but on the other hand quercetin has weakness in pharmacokinetics aspect. Quercetin practically insoluble in water so it has low bioavailability (Smith *et al.*, 2011; Painter, 1998). Therefore a method to increase solubility and dissolution rate of quercetin. Cocrystal is the method that can be used.

The purposed of this study was to determine the effect of quercetin-succinic acid cocrystal with solvent drop grinding method on solubility and dissolution rate. The result solubility and dissolution rate test of quercetin-succinic acid cocrystal will be compared with quercetin and physical mixture of quercetin-succinic acid.

The solubility test is carried out in media sitrat-NaOH buffer pH 5,0  $\pm$  0,05 at temperature 30,0  $\pm$  0,5 °C and sampling at saturation solubility time of quercetin (180 minutes). The result show that there is an increase in solubility of quercetin-succinic acid cocrystal 1,62 times.

The dissolution test is carried out in media sitrat-NaOH buffer pH 5,0  $\pm$  0,05 + SLS 2% using dissolution test apparatus type II with speed 100 rpm at temperature 37  $\pm$  0,5 °C. The result of dissolution test show that there is an increase in dissolution rate of quercetin-succinic acid cocrystal 1,25 times.

**Keyword:** Quercetin, Succinic acid, Cocrystal, Solubility, Dissolution Rate.