

ABSTRACT

EFFECT OF NATRIUM ALGINATE CONTENT IN PHYSICAL CHARACTERISTIC, VIABILITY AND ANTICANCER ACTIVITY OF PROBIOTIC-TOMATO PASTE MICROPARTICLE

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The aim of this research was to investigate effect of natrium alginate concentration in physical characteristic, viability, and anticancer activity of probiotic-tomato paste microparticle. Natrium alginate concentration 2,5%, 3%, and 3,5% were used for maked microparticle in this study by extrusion method, then dried by freeze dry method. Resulting microparticle were characterised in terms of physical characteristic (morphology, particle size, and MC), viability of probiotic, and anticancer activity. The particle size of microparticle increase with increasing natrium alginate concentration, but MC of microparticle decrease with increasing natrium alginate concentration. The result of viability tests show that increasing natrium alginate concentration will increase viability of *Lactobacillus acidophilus* in microparticle under extrusion and freeze dry process and under intestin condition, the highest viability was obtained from formula III with 95,58% viability that significant different with formula I ($p < 0,05$), but didnot have significant different with formula II ($p > 0,05$). And then, the result for anticancer activity show that increasing natrium alginate concentration was havenot significant different with other formula ($p > 0,05$), the highest activity was obtained from formula III with $230,79 \pm 70,53$ ppm.

Keywords: Microparticle, Extrusion, Natrium Alginate, Probiotic, Tomato paste, *Lactobacillus acidophilus*, Viability, Anticancer