

**“Nanoparticles Activities From Bombay (*Allium cepa*. L) Extract
As Inhibitor On MCF-7 Cells *In Vitro*”**

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ABSTRACT

The purpose of this research was to manufacture nanoparticles from *Allium cepa*. L extract which containing flavonoids, saponins and tannins that can inhibit the proliferations of MCF-7 cells in vitro which tested by IHC to know supresses of Bcl2 protein expression and activated Caspase-3 protein. The research samples were nanoparticles from *Allium cepa*. L extract and MCF-7 cells in vitro. Nanoparticles was making done by SEM and PSA test. Nanoparticles extract from *Allium cepa*. L tested by the KLT test to see the active ingredients and the result show that there are flavonoids, saponins and tannins in the nanoparticles extract from *Allium cepa*. L. Treatment nanoparticles from *Allium cepa*. L extract was administered to MCF-7 cells at doses of 40 µg/ml, 80 µg/ml, 160 µg/ml and 320 µg/ml. Treatment *Allium cepa*. L extract was administered to MCF-7 cells at doses of 40 µg/ml, 80 µg/ml, 160 µg/ml and 320 µg/ml. The result showed that nanoparticles extract from *Allium cepa*. L has cytotoxicity to MCF-7 with IC₅₀ was 235 µg/ml and extract from *Allium cepa*. L has cytotoxicity to MCF-7 with IC₅₀ was 319 µg/ml. This samples was tested by IHC assay to see the expression level of Bcl-2 protein and expression level of caspase-3. The result showed that nanoparticles from *Allium cepa*. L extract was more suppress the expression of Bcl-2 protein than *Allium cepa*. L extract that showed by color change the cytoplasmic cell to be blue after stained by HE and nano particles from *Allium cepa*. L extract can activate caspase-3 protein more than *Allium cepa*. L extract that showed by color change the cytoplasmic cell to be brown after stained by HE.

Keywords : MCF-7, *Allium cepa*. L, Nanoparticles, Caspase-3, Bcl2