

# Aktivitas sitotoksik in vitro ekstrak etanol kulit buah manggis (*Garcinia mangostana* L) terhadap sel leukemia MT-2 = In vitro cytotoxic activity of mangosteen pericarp *Garcinia mangostana* L ethanol extract on leukemia MT-2 cells

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## Abstrak

[Buah Manggis (*Garcinia mangostana* L.) merupakan buah yang banyak tumbuh di negara tropis, di antaranya Indonesia dan Thailand. Bagian kulit (pericarp) Manggis memiliki banyak khasiat, salah satunya sebagai antikanker. Berdasarkan hal tersebut, dilakukan uji sitotoksitas untuk melihat efek ekstrak kulit buah Manggis terhadap viabilitas sel leukemia MT-2. Untuk membuat ekstrak, pelarut yang digunakan adalah etanol 99%. Ekstrak etanol kulit buah Manggis dibuat dengan menggunakan alat rotary evaporator. Konsentrasi ekstrak dibagi menjadi delapan yakni, 6,25 &#956;g/ml, 12,5 &#956;g/ml, 25 &#956;g/ml, 50 &#956;g/ml, 100 &#956;g/ml, 200 &#956;g/ml, 400 &#956;g/ml, dan 800 &#956;g/ml. Penambahan DMSO dan media kultur digunakan sebagai kontrol. Ekstrak dan kontrol diberikan kepada sel leukemia MT-2 dan dilakukan uji sitotoksitas dengan menggunakan metode MTT-Assay. Hasil uji sitotoksitas berupa kepadatan sel yang dinyatakan dengan Optical Density (OD). Data ini diolah sehingga menghasilkan IC50. Nilai IC50 yang didapatkan adalah 1,72 &#956;g/ml yang tergolong sitotoksik kuat. Data penelitian dianalisis menggunakan uji Kruskal-Wallis, dilanjutkan dengan uji post hoc Mann Whitney dan didapatkan hasil perbedaan bermakna pada kelompok kontrol dan kelompok perlakuan dengan konsentrasi 6,25 &#956;g/ml, 12,5 &#956;g/ml, 25 &#956;g/ml, dan 50 &#956;g/ml.;Mangosteen (*Garcinia mangostana* L.). is a fruit which grows in tropical countries, includes Indonesia and Thailand. Its peel or pericarp has a lot of benefits. One of the benefits is as anticancer. To test the effectiveness of the peel as anticancer, cytotoxicity test should be done. The previous researches haven't done the test on leukemia MT-2 cells, so this research did this test on leukemia MT-2 cells to know the effect of mangosteen pericarp ethanol extract to the viability of this cancer cell. This research used ethanol 99% for the solvent. Mangosteen pericarp ethanol extract was made by using rotary evaporator. The extract was adjusted into eight concentrations, which are 6.25 &#956;g/ml, 12.5 &#956;g/ml, 25 &#956;g/ml, 50 &#956;g/ml, 100 &#956;g/ml, 200 &#956;g/ml, 400 &#956;g/ml, and 800 &#956;g/ml. DMSO and culture media were used for the control. Both the extract and the control were given to the leukemia MT-2 cells and were tested for cytotoxicity test. MTT-Assay method was used for the cytotoxicity test. The result of cytotoxicity test is called Optical Density (OD) or the density of the cancer cells which are still ?alive?. This data was processing so that the IC50 can be valued. The IC50 value from this experiment is 1.72 &#956;g/ml which is a very strong cytotoxicity. For data analysis, this research used Kruskal-Wallis Test and was continued by using Post hoc Mann-Whitney Test. From Post hoc Mann-Whitney Test, there are the significant differences between several concentrations. The significant differences can be seen on control group and tested group with concentration 6.25 &#956;g/ml, 12.5 &#956;g/ml, 25 &#956;g/ml, and 50 &#956;g/ml;Mangosteen (*Garcinia mangostana* L.). is a fruit which grows in tropical countries, includes Indonesia and Thailand. Its peel or pericarp has a lot of benefits. One of the benefits is as anticancer. To test the effectiveness of the peel as anticancer, cytotoxicity test should be done. The previous researches haven't done the test on leukemia MT-2 cells, so

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