

## Uji sitotoksitas in vitro ekstrak etanol kulit buah manggis (*Garcinia mangostana* Linn) terhadap sel raji = In vitro cytotoxicity test of mangosteen pericarp *Garcinia mangostana* Linn ethanol extract on raji cells

Sonya Aprella Diva, author

Deskripsi Lengkap: <https://lib.ui.ac.id/detail?id=20421202&lokasi=lokal>

---

### Abstrak

[Buah manggis (*Garcinia mangostana* Linn) merupakan salah satu buah tropis dari Asia Tenggara seperti Indonesia dan kulitnya biasanya digunakan sebagai obat tradisional untuk mengatasi inflamasi dan mikroorganisme. Selain itu, kulit buah manggis juga diperkirakan dapat digunakan sebagai antikanker. Tujuan dari penelitian ini adalah mengetahui pengaruh ekstrak etanol kulit buah manggis terhadap viabilitas sel Raji secara in vitro melalui uji sitotoksitas. Ekstrak etanol kulit buah manggis didapatkan melalui proses maserasi dan evaporasi dengan rotary evaporator. Ekstrak dibagi menjadi beberapa konsentrasi, yaitu 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, kemudian diujikan ke sel Raji dan diinkubasi selama 48 jam. Uji sitotoksitas yang digunakan adalah metode MTT-assay. Sifat sitotoksitas ekstrak tersebut ditentukan oleh nilai IC50, lalu uji kemaknaan yang digunakan adalah Kruskal-Wallis. Hasil analisis menunjukkan nilai IC50 sebesar 3,07 &#956;g/ml ( $p = 0,02$ ). Kesimpulan dari penelitian ini adalah ekstrak etanol kulit buah manggis bersifat sitotoksik kuat terhadap viabilitas sel Raji dan ditemukan adanya perbedaan bermakna antar kelompok. Hasil uji Post Hoc memperlihatkan terdapat perbedaan bermakna antara kelompok kontrol dan kelompok perlakuan dengan konsentrasi 6,25 &#956;g/ml dengan kelompok perlakuan lain.;Mangosteen (*Garcinia mangostana* Linn) is one of tropical fruit from south east Asia such as Indonesia and its pericarp usually used as traditional medicine for anti-inflammatory and anti-microorganism. Mangosteen pericarp is also expected can be used as anticancer. The aim of this study was to determine the in vitro cytotoxicity of mangosteen pericarp ethanol extract on viability of Raji cells. The extract was obtained by maceration and evaporation process with rotary evaporator. The extract was divided into several concentration, such as 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, then it was tested with Raji cells and incubated during 48 hours. The cytotoxic effect against Raji cells is evaluated by MTT-assay. The cytotoxicity level of the extract is determined by IC50 value, then the significance test is used Kruskal-Wallis. The result of analysis showed that IC50 value was 3.07 &#956;g/ml ( $p = 0.02$ ). The conclusion of this research were the mangosteen pericarp ethanol extract has high cytotoxicity for viability Raji cells and there was a significant difference between groups. Post Hoc test result showed there were significant difference between control and 6.25 &#956;g/ml group which compared with other groups;

Mangosteen (*Garcinia mangostana* Linn) is one of tropical fruit from south east Asia such as Indonesia and its pericarp usually used as traditional medicine for anti-inflammatory and anti-microorganism. Mangosteen pericarp is also expected can be used as anticancer. The aim of this study was to determine the in vitro cytotoxicity of mangosteen pericarp ethanol extract on viability of Raji cells. The extract was obtained by maceration and evaporation process with rotary evaporator. The extract was divided into several concentration, such as 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

800 µg/ml, and 800 µg/ml, then it was tested with Raji cells and incubated during 48 hours. The cytotoxic effect against Raji cells is evaluated by MTT-assay. The cytotoxicity level of the extract is determined by IC<sub>50</sub> value, then the significance test is used Kruskal-Wallis. The result of analysis showed that IC<sub>50</sub> value was 3.07 µg/ml (p = 0.02). The conclusion of this research were the mangosteen pericarp ethanol extract has high cytotoxicity for viability Raji cells and there was a significant difference between groups. Post Hoc test result showed there were significant difference between control and 6.25 µg/ml group which compared with other groups, Mangosteen (*Garcinia mangostana* Linn) is one of tropical fruit from south east Asia such as Indonesia and its pericarp usually used as traditional medicine for anti-inflammatory and anti-microorganism. Mangosteen pericarp is also expected can be used as anticancer. The aim of this study was to determine the in vitro cytotoxicity of mangosteen pericarp ethanol extract on viability of Raji cells. The extract was obtained by maceration and evaporation process with rotary evaporator. The extract was divided into several concentration, such as 6.25 µg/ml, 12.5 µg/ml, 25 µg/ml, 50 µg/ml, 100 µg/ml, 200 µg/ml, 400 µg/ml, and 800 µg/ml, then it was tested with Raji cells and incubated during 48 hours. The cytotoxic effect against Raji cells is evaluated by MTT-assay. The cytotoxicity level of the extract is determined by IC<sub>50</sub> value, then the significance test is used Kruskal-Wallis. The result of analysis showed that IC<sub>50</sub> value was 3.07 µg/ml (p = 0.02). The conclusion of this research were the mangosteen pericarp ethanol extract has high cytotoxicity for viability Raji cells and there was a significant difference between groups. Post Hoc test result showed there were significant difference between control and 6.25 µg/ml group which compared with other groups]