

Pengaruh ekstrak kulit buah garcinia dioica pada kadar LDL plasma tikus strain wistar yang diberi asupan lemak berlebih = The effect of garcinia dioica s fruit bark extract on plasma LDL c levels of high fat diet wistar rat

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Abstrak

Tingginya prevalensi dislipidemia menjadi masalah kesehatan dunia. Diet tinggi lemak merupakan faktor risiko utamanya. Penatalaksanaannya mencakup pengontrolan profil lipid. Senyawa yang mengintervensi metabolisme lipid dapat menurunkan kadar lipid plasma. Tumbuhan dari marga garcinia mempunyai berbagai metabolit sekunder, seperti xanthones, alkaloids, saponin, and flavonoid. Beberapa senyawa tersebut memiliki bioaktivitas hipolipidemik.

Penelitian ini membuktikan pengaruh ekstrak kulit buah *Garcinia dioica* pada kadar LDL plasma tikus. Penelitian ini menggunakan 25 tikus strain Wistar yang dibagi menjadi 5 kelompok, yaitu kelompok diet standar, kelompok diet tinggi lemak, serta kelompok uji ekstrak *Garcinia dioica* 10 mg, 20 mg, dan 30 mg. Kelompok diet standar mendapatkan pakan pellet dan 1 ml PTU selama 21 hari untuk acuan tikus normal, sedangkan kelompok diet tinggi lemak diberi tambahan pakan tinggi lemak untuk acuan tikus hiperlipidemia.

Kelompok uji mendapat pakan tinggi lemak selama 21 hari untuk induksi hiperlipidemia, dilanjutkan diet tinggi lemak disertai ekstrak *Garcinia dioica* selama 21 hari berikutnya. Kadar LDL antarkelompok diet dan antarkelompok uji dibandingkan. Nilai pada kelompok uji adalah 17.0 ± 2.45 mg/dL, 26.6 ± 4.16 mg/dL, dan 12.2 ± 2.17 mg/dL. Hubungan kadar LDL dan dosis ekstrak bermakna signifikan ($p < 0.05$). Disimpulkan ekstrak kulit buah *Garcinia dioica* memiliki efek hipolipidemik dan dosis 150 mg/kg/hari pada tikus yang hiperlipidemia memberikan efek terbaik.

Disorder of lipid metabolism, also called hyperlipidemia have been important diseases threatening people health. The high fat diet is the main pathogenic cause of it, so regulate blood lipid has been hotspots on research nowadays. Agents from natural products that inhibit and interference lipid metabolism are of theoretical benefit in the treatment of hyperlipidemia. Fruits from genus garcinia is a kind of natural plant product which contains multiple useful components.

This study aims to investigate the effect of *Garcinia dioica* fruit bark extract on the LDL-C levels. Twenty five experimental rats divided into five experimental groups, including the standart diet group, the high fat diet group, and the high fat diet with 150, 100, 50 mg/(kg·d) *Garcinia dioica* fruit bark extract groups. The standart diet group were fed standart diet for 21 days to set up normal model rats, while high fat diet group were fed high fat diet for 21 days to set up the model of hyperlipidemia rats.

The other three groups were fed high fat diet for 21 days to set up the model of hyperlipidemia rats and then were fed high fat diet with *Garcinia dioica* fruit bark extract for another 21 days. The LDL-C lowering efficacy was determined by comparing LDL-C levels among *Garcinia dioica* groups. The results showed that LDL-C decreased significantly ($p < 0.05$) in all *Garcinia dioica* groups (high, moderate, low doses). The average LDL-C levels of high dose *Garcinia dioica* groups is the lowest. It is concluded that the *Garcinia dioica* fruit bark extract are significant in lowering LDL-C levels.