BANABA LEAF

Lagerstroemia speciosa associada na síndrome metabólica

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*Lagerstroemia speciosa* associada na síndrome metabólica

**DESCRIÇÃO**

A *Banaba Leaf* é um extrato seco das folhas de *Lagerstroemia speciosa L*, padronizado em 1,22% ácido corosólico.

**MECANISMO DE AÇÃO**

Ácido corosólico, tem atividade contra alfa-glicosidase e contribui para atividade inibidora da alfaamilase. Ao inibir a ação enzimática da alfa-glicosidase e da alfa-amilase, as moléculas de carboidratos não sofrem degradação, dessa forma elas não são absorvidas e são enviadas diretamente ao intestino para serem eliminados pelas fezes, sendo uma alternativa segura para diabéticos que precisam diminuir as taxas de glicose no sangue e também para auxiliar nas dietas de emagrecimento. Esse ácido também aumenta a produção de frutose-2,6-bifosfato, diminui os níveis intracelulares de AMPc, tanto na presença como na ausência de forscolina em hepatócitos isolados, estimulando a glicólise e inibindo a gliconeogênese. Banaba Leaf induz a translocação do GLUT4 para a membrana plasmática, aumentando assim a captação de glicose. Banaba Leaf também possui elagitaninos como Flosin B, Lagerstroemin e Reginin A que demonstraram atividade como transportadores de glicose (insulin-like).

**INDICAÇÕES**

- Diabetes e doenças renais relacionadas;
- Síndrome metabólica.

**DOSE USUAL**

Recomendação oral de 250 a 500mg de *Banaba Leaf (Lagerstroemia speciosa L. - 1,22% de ácido corosólico)* ao dia.

**SUGESTÕES DE FÓRMULAS**

<table>
<thead>
<tr>
<th>Banaba Leaf (<em>L. speciosa</em> - 1,22% ác.)</th>
<th>250mg</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Modo de uso:</strong></td>
<td>1 dose, 1 ou 2 vezes ao dia.</td>
</tr>
<tr>
<td><strong>Indicação:</strong></td>
<td>adjuvante no controle glicêmico.</td>
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</table>

<table>
<thead>
<tr>
<th>Banaba Leaf (<em>L. speciosa</em> - 1,22% ác.)</th>
<th>160mg</th>
</tr>
</thead>
<tbody>
<tr>
<td>Panax ginseng</td>
<td>160mg</td>
</tr>
<tr>
<td>Morus alba</td>
<td>160mg</td>
</tr>
<tr>
<td><strong>Modo de uso:</strong></td>
<td>1 dose, 3 vezes ao dia, 40 minutos antes das principais refeições.</td>
</tr>
<tr>
<td><strong>Indicação:</strong></td>
<td>modulação inflamatória na síndrome metabólica.</td>
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</tbody>
</table>

**PRINCIPAIS REFERÊNCIAS**


A review of the efficacy and safety of banaba (Lagerstroemia speciosa L.) and corosolic acid.

Banaba (Lagerstroemia speciosa L.) extracts have been used for many years in folk medicine to treat diabetes, with the first published research study being reported in 1940. This review summarizes the current literature regarding banaba and its constituents. The hypoglycemic effects of banaba have been attributed to both corosolic acid as well as ellagitannins. Studies have been conducted in various animal models, human subjects and in vitro systems using water soluble banaba leaf extracts, corosolic acid-standardized extracts, and purified corosolic acid and ellagitannins. Pure corosolic acid has been reported to decrease blood sugar levels within 60 min in human subjects. Corosolic acid also exhibits antihyperlipidemic, antioxidant, antiinflammatory, antifungal, antiviral, antineoplastic and osteoblastic activities. The beneficial effects of banaba and corosolic acid with respect to various aspects of glucose and lipid metabolism appear to involve multiple mechanisms, including enhanced cellular uptake of glucose, impaired hydrolysis of sucrose and starches, decreased gluconeogenesis and the regulation of lipid metabolism. These effects may be mediated by PPAR, MAP K, NF κB and other signal transduction factors. No adverse effects have been observed or reported in animal studies or controlled human clinical trials. Banaba extract, corosolic acid and other constituents may be beneficial in addressing the symptoms associated with metabolic syndrome, as well as offering other health benefits.

Management of Diabetes and Its Complications with Banaba (Lagerstroemia speciosa L.) and Corosolic Acid.

Banaba (Lagerstroemia speciosa L.) extracts have been used for many years in folk medicine to treat diabetes, with the first published research study being reported in 1940. This paper summarizes the current literature regarding Banaba and its constituents. The hypoglycemic effects of Banaba have been attributed to both corosolic acid as well as ellagitannins. Studies have been conducted in various animal models, human subjects, and in vitro systems using water soluble Banaba leaf extracts, corosolic acid, and ellagitannins. Corosolic acid has been reported to decrease blood sugar levels within 60 min in human subjects. Corosolic acid also exhibits antihyperlipidemic and antioxidant activities. The beneficial effects of Banaba and corosolic acid with respect to various aspects of glucose and lipid metabolism appear to involve multiple mechanisms, including enhanced cellular uptake of glucose, impaired hydrolysis of sucrose and starches, decreased gluconeogenesis, and the regulation of lipid metabolism. These effects may be mediated by PPAR and other signal transduction factors. Banaba extract, corosolic acid, and other constituents may be beneficial in addressing the symptoms associated with metabolic syndrome, as well as offering other health benefits.

DLBS3233, a combined bioactive fraction of Cinnamomum burmanii and Lagerstroemia speciosa, in type-2 diabetes mellitus patients inadequately controlled by metformin and other oral antidiabetic agents.

Background

DLBS3233, a combined bioactive fraction of Cinnamomum burmanii and Lagerstroemia speciosa, has preclinically demonstrated its beneficial effects on glucose and lipid metabolism through the upregulation of insulin-signal transduction. This study evaluated the clinical efficacy of an add-on therapy with DLBS3233 in type-2 diabetes mellitus subjects inadequately controlled by metformin and other oral antidiabetes. Methods

This was an open and prospective clinical study for 12 weeks of therapy, involving type-2 diabetes mellitus patients who had been treated with two oral antidiabetic agents for at least 3 months prior to screening, yet, with HbA1c level was still beyond 7.0 %. DLBS3233 was given orally at the dose of 100 mg once daily in addition to their baseline oral antidiabetes medication. The primary end point was the reduction of HbA1c level; and the secondary end points were changes of fasting and 1-h postprandial glucose, homeostatic model assessment-insulin resistance, adiponectin, and lipid profile, from their respective baseline. Results

After 12 weeks of treatment, the HbA1c level was reduced by 0.65±1.58 % (p=0.001) from baseline (9.67±2.11 %); while the 1-h-PG level was reduced by -1.45±3.89 mmol/L (p=0.021) from baseline (15.29±4.49 mmol/L). Insulin sensitivity, lipid profile and adiponectin level were improved to a considerable extent. DLBS3233 did not adversely affect body weight, liver, and renal function. Most adverse events observed were tolerably mild and they all had been resolved by the end of the study.

Conclusions: The add-on oral antidiabetes therapy with DLBS3233 at the dose of 100 mg once daily helped type-2 diabetes mellitus patients to improve their glycemic control, enhance insulin sensitivity, lipid profile, and adiponectin level. In addition, DLBS3233 treatment concomitantly with other oral antidiabetic agents was proven safe and tolerable in type-2 diabetes subjects.
Insulin sensitizer in prediabetes: a clinical study with DLBS3233, a combined bioactive fraction of *Cinnamomum burmanii* and *Lagerstroemia speciosa*.

BACKGROUND: The aim of this paper is to evaluate the efficacy and safety of DLBS3233, a novel bioactive fraction derived from *Cinnamomum burmanii* and *Lagerstroemia speciosa*, in improving insulin resistance and preserving β-cell performance in patients with impaired glucose tolerance (IGT). PATIENTS AND METHODS: Eighty adult subjects with IGT, defined as 2-hour postprandial glucose level of 140-199 mg/dL, were enrolled in this two-arm, 12-week, double-blind, randomized, placebo-controlled preliminary study. Eligible subjects were randomly allocated to receive either DLBS3233 at a dose of 50-100 mg daily or placebo for 12 weeks. The study mainly assessed the improvement of homeostatic model-assessed insulin resistance (HOMA-IR), the 15-minute and 2-hour plasma insulin levels, and the oral disposition index. RESULTS: After 12 weeks, DLBS3233 improved insulin resistance better than placebo as reflected by a reduced HOMA-IR (-27.04%±29.41% vs -4.90%±41.27%, P = 0.013). The improvement of the first- and second-phase insulin secretion was consistently greater in DLBS3233 group than placebo group (-144.78%±194.06 vs -71.21±157.19, P = 0.022, and -455.03±487.56 vs -269.49±467.77, P = 0.033, respectively). Further, DLBS3233 also significantly better improved oral disposition index than placebo. No serious hypoglycemia, edema, or cardiovascular-related adverse events were found in either groups. CONCLUSION: This study has shown that DLBS3233 at the dose of 50-100 mg once daily was well tolerated, and promisingly efficacious in improving insulin sensitivity as well as preserving β-cell performance in subjects with IGT.

A six-month supplementation of mulberry, korean red ginseng, and banaba decreases biomarkers of systemic low-grade inflammation in subjects with impaired glucose tolerance and type 2 diabetes.

We sought the long-term efficacy of traditionally used antidiabetic herbs in controlling blood glucose homeostasis and low-grade inflammation. Ninety-four subjects with either impaired glucose tolerance or mild T2D were randomized either to treatment arm or placebo arm and received 1:1:1 mixture of ginseng roots, mulberry leaf water extract, and banaba leaf water extract (6 g/d) for 24 weeks. Oral 75 g glucose tolerance test was performed to measure glucose and insulin responses. Blood biomarkers of low-grade inflammation were also determined. Results found no significant difference in glucose homeostasis control measure changes. However, plasma intracellular adhesion molecule-1 (ICAM-1) concentration was decreased showing a significant between-treatment changes (P = 0.037). The concentrations of vascular cell adhesion molecule-1 (VCAM-1) (P = 0.014) and ICAM-1 (P = 0.048) were decreased in the treatment group at week 24, and the oxidized low-density lipoprotein (ox-LDL) concentration was reduced at week 24 compared to the baseline value in the treatment group (P = 0.003). These results indicate a long-term supplementation of ginseng, mulberry leaf, and banaba leaf suppresses inflammatory responses in T2D.

REFERÊNCIAS


