Anti-Diabetic Agents from Leaves of Combretum micranthum (Kinkeliba)

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Technology description

At 40 and 80 min. following oral glucose challenge, the TPFA treated group had significantly lowered plasma glucose concentrations compared to the control group.
Invention Summary:Rutgers scientists have developed a proprietary method of extracting and purifying a novel type of piperidine flavan alkaloids from the leaves of Combretum micranthum (kinkeliba) and a procedure for the preparation of total piperidine flavan alkaloids (TPFA) that possess anti-diabetic properties.
Kinkeliba is a highly regarded medicinal plant in Africa, with roots, bark, fruit and leaves being used. In its native Sub-Saharan Africa, the fresh and brewed leaves of kinkeliba have a long established history as being safe multi-functional agents that are consumed regularly for a broad range of health, prophylactic, curative, and anti-disease benefits. Kinkeliba herbal teas are a readily available niche specialty consumer product.
Our scientists have identified and isolated specific compounds from kinkeliba leaves that result in a significant glucose-lowering functionality and can be administered in efficacious dosages as a dietary supplement or food additive. Animal studies have shown that the isolated compounds:
decrease fasting plasma glucose levels
increase glucose tolerance
lower plasma insulin levels, and
decrease liver expression of the PEPCK gene, which indicates antidiabetic activity

Application area

Diabetes, metabolic disorders, weight loss, diuretics
Can be blended into existing formulations (food, beverage, or nutraceutical) to boost efficacy and broaden application and efficacy profile

Advantages

Kinkeliba tea has a well documented traditional and safe medicinal use
Established safety profile
Readily available source

Rich in potent antioxidants
Distinct attributes and functionality as compared to other common tea (e.g., green tea or black tea) derivatives

Institution

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Inventors

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