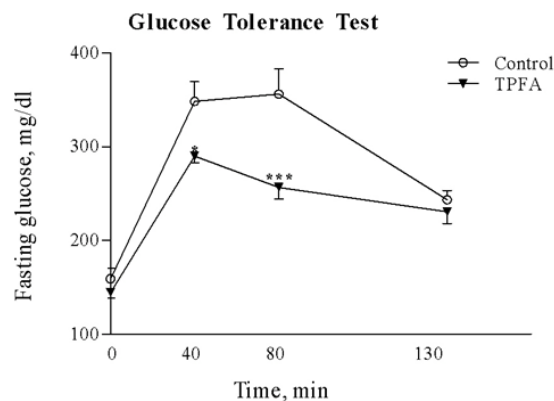


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At 40 and 80 min. following oral glucose challenge, the TPFA treated group had significantly lowered plasma glucose concentrations compared to the control group.

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

**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.

Further experiments have demonstrated an anti-inflammatory action of the compounds. An effective preparation method has also been developed.

### Market Applications:

- 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

### Advantage vs Existing Technologies:

- 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.

### Intellectual Property & Development

**Status:** Patent pending.

