2010-087 Anti-Diabetic Agents from of Combretum micranthum (Kinkeliba)

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Technology description

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. 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. 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.

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