

# Targeting Kidney Stones: A Neutraceutical Formulation / Functional Food containing Bioactives

Published date: Aug. 1, 2018

### Technology description

The inventors of this patent-pending formula are UC San Diego physician-researchers, who are leaders in their field. Beyond their expertise in medical care and science, they have dedicated their work to ensure support for their patients, both inside, and beyond, their clinics. Therefore, the neutraceutical they have formulated is an easy-to-drink, once-a-day beverage that increases urinary citrate levels and supports optimization of urinary pH. The addition of orange juice and lemon/lime extracts add great taste, but also removes the gas formation side effects common with other adjunct therapies. Other proprietary ingredients target key renal functions, such that this functional food formulation both stimulates the kidney to release urinary citrate, and supports the alkalinization of the patient's urine. The inventors believe this once-a-day neutraceutical is both protective and therapeutic for kidney stones. There are two formulations available: a high-dose Therapeutic Formula, for patients who have already formed stones and need to optimize their urine composition and prevent future stone growth and formation; and a Preventative Formula, for those patients at risk of kidney stones. At-risk patients can include those with a family history of stones, or a history of gastric by-pass surgery, but also diabetics, those with gout, or a history of idiopathic hypercalciuria. Use of the Prevention Formula can be by people who want to decrease risk factors for stone formation, and thereby reduce their risk of forming a stone.

Changing diets and lifestyles are causing dramatic increases in painful kidney stones. Tastes for high-salt processed foods, high-sugar foods and drinks, and poor hydration are all causes. It is estimated that 10-20% of the population will develop a kidney stone, resulting in extreme pain, which may require surgical intervention. Alongside direct medical procedures, patients are often given potassium citrate pills as an adjunct therapy, but these are poorly-tolerated due to gastrointestinal side effects and large size of the pills, all of which decrease patient compliance. These current formulations require a twice-a-day dosing regimen, which only exacerbates the compliance problem. However, beyond these citrate pills, sadly few effective medical alternatives exist.

To remedy this problem, UC San Diego physicians have recently developed a neutraceutical formulation, specifically designed to comprise precise balance of bioactives within a well-tolerated functional food, supporting the targeted relief of kidney stones.

These patent-pending Formulas have clinical demonstration of feasibility, and the UC San Diego physician-researchers hope to work with entrepreneurs who can effectively make these breakthrough

Formulations available to the wider public. The invention could be in the form of a liquid and/concentrate powder.

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