

Woody vine may help prevent kidney stones

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Aspidopterys obcordata. Credit: Xu Youkai

Urolithiasis is usually treated by surgery. However, the high recurrence rate and high cost of treatment call for a non-surgical medical solution. In the Dai minority region of China, the perennial woody vine of *Aspidopterys obcordata* (Hei Gai Guan) has been used as a folk medicine for the treatment of urinary tract infections, cystitis and urinary tract stones and also treated as a drink for the prevention of kidney stones. However, the material basis and underlying mechanisms remain unclear.

In a study published in *Carbohydrate Polymers*, researchers from the Xishuangbanna Tropical Botanical Garden (XTBG) of the Chinese Academy of Sciences evaluated an inulin-like polysaccharide purified from the aqueous extract of *Aspidopterys obcordata* for its inhibitory activity against calcium oxalate crystallization in vitro, in cells and in fruit fly models. They reported the isolation and biological evaluation of a 2.3 kD inulin-like *A. obcordata* fructan (AOFOS).

AOFOS was isolated by size exclusion column chromatography and characterized by ultrahigh-performance liquid chromatography-ion trap-time of flight mass spectrometry, [nuclear magnetic resonance spectroscopy](#), gas chromatography-mass spectrometry and high-performance gel permeation chromatography.



Medicinal parts of *Aspidopterys obcordata*. Credit: Xu Youkai

The researchers also found that AOFOS significantly reduced the size of calcium oxalate crystals in *Drosophila* by inhibiting the formation of large size crystals and the generation rate of calcium oxalate crystals, as well as the calcium oxalate monohydrate crystallization.

"AOFOS is expected to have a desirable effect in the prevention and treatment of urolithiasis," said Xu Youkai of XTBG.

More information: Peng Sun et al, *Aspidopterys obcordata* vine inulin fructan affects urolithiasis by modifying calcium oxalate crystallization, *Carbohydrate Polymers* (2022). [DOI: 10.1016/j.carbpol.2022.119777](https://doi.org/10.1016/j.carbpol.2022.119777)

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