Often lacking in natural product drug discovery are 'mechanistic insights'; that is, insights into the events at the molecular level that are behind any effects that plant compounds have on cells or organisms. With this in mind, Tom Prescott screened 250 Old English plants from the Queen's Garden at Kew, to search for compounds that inhibit the human enzyme calcineurin. The results have been published in the Journal of Ethnopharmacology.

Calcineurin plays an important role in regulating human T-cell activation in the immune response, and inhibition of this process can be beneficial in certain auto-immune diseases.

Nepeta cataria and Teucrium chamaedrys showed initial promise but the compounds responsible (phenylpropanoid glycosides) were only strongly active against the basal, un-activated form of the enzyme.
Jasminum humile was found to be more promising as the ethanol extract inhibited both isolated human calcineurin enzyme and calcineurin-dependent gene expression in yeast cells. This demonstrated that plants do indeed produce compounds that directly inhibit calcineurin.


Provided by Royal Botanic Gardens, Kew


This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.