

## Symposium

### Using diversity among species of *Echinacea* and *Hypericum* to identify metabolomic profiles of bioactivity

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*Echinacea* (Purple Coneflower) and *Hypericum* (St. John's wort) have significant histories as botanical therapies for infective disorders, and the use of these and other botanical supplements is rapidly increasing. Results from the Iowa Botanical Supplements Center clearly point to species- and population-level differences in anti-viral and anti-inflammatory activities in *Echinacea* and *Hypericum*. Bioactivity guided fractionation has been used with these supplements to identify bioactive constituents and probe interactions of constituents. Anti-HIV activity in *Echinacea* was associated with polyphenolic compounds, coupled with the well-described effects of cichoric acid and potentially also the contribution of alkamides. Anti-inflammatory activity was associated with alkamides and flavonoids. Light-independent anti-viral activity was identified in *H. perforatum*. The Iowa Botanical Center is unique in its ability to use the genetic diversity among species of the genera of interest to understand the constituents that contribute to bioactivity. Funded by P01 ES012020 from the National Institute of Environmental Health Sciences (NIEHS) and the Office of Dietary Supplements (ODS), NIH.

#### Selected references:

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