



## Standardized Herbs

All of our herbs are supplied by well respected European and USA suppliers. They are analyzed for purity and quality. We do not use standardized herbs in our formulations.

Standardizing means manipulating an herb so that it contains a guaranteed amount of a certain botanical constituent. For example, for years St. John's Wort was standardized to 0.2% hypericin because scientists thought that was the constituent responsible for the anti-depressant properties of the herb. Later scientists found out that there is another constituent present in St. John's Wort, hyperforin, that is equally if not more important than hypericin. So, scientists started standardizing to 0.2% hypericin and 3-5% hyperforin. Still later, it was shown that flavonoids in the plant contribute to the anti-depressant activity (*see attached abstract*). What now? Another standardization, or will scientists finally realize that the whole herb is superior to isolated constituents?

Plants are extremely complex chemically, containing hundreds to thousands of constituents. The majority of plant constituents have yet to be identified or understood by modern science. It is the synergy of the various constituents that is responsible for the medicinal activity of herbs. Dr. Jean Claude Lapraz, the co-innovator of Endobioénie, calls this "the intelligence of plants." Additionally, plants contain constituents that protect against the potential side effects of other constituents. A good example of this is meadowsweet herb. Meadowsweet contains anti-inflammatory salicylates. When salicylates are isolated from a plant or produced synthetically (e.g., aspirin), they can cause GI irritation, bleeding, and ulcers. Meadowsweet contains demulcent constituents that help protect against the potentially harmful activity of the salicylates. This doesn't mean that herbs can't be harmful if misused, but the chance of side effects is greatly minimized when using whole, natural medicinal herbs in responsible doses.

### Summary of the disadvantages of standardized herbs:

- 1) Standardized extracts often contain one isolated "active" ingredient and the balance of the extract is comprised of filler rather than natural plant material. Hundreds to thousands of the plant's constituents are lost destroying the synergy of the natural herb and reducing its healing potential.
- 2) Errors identifying the "active" constituents occur. *See St. Johns Wort example.*
- 3) When protective constituents are removed from plants, there is a much greater potential for side effects.
- 4) Chemical solvents are used to extract the "active" ingredients and then the extract is treated with high heat to remove the solvents. The heat denatures enzymes present in the plant and solvent residues may remain.
- 5) The nature of standardized herbs is much closer to pharmaceutical drugs than herbal medicine.

## **Abstract**

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#### **Step by step removal of hyperforin and hypericin: activity profile of different *Hypericum* preparations in behavioral models**

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Herbal extracts of *Hypericum perforatum* L. (St. John's wort, SJW) are now successfully competing for status as a standard antidepressant therapy. Because of this, great effort has been devoted to identifying the antidepressive active compounds. In the present study we used the following strategy to evaluate the relative pharmacological importance of various extract components: 1. preparation of an hydroalcoholic SJW extract containing both hyperforin (3.2%) and hypericin (0.15%) (extract A); 2. step by step removal of hyperforin and hypericin led to the following extracts: Extract B, devoid of hyperforin but still containing hypericin (0.14%) and Extract C, free of hypericin and hyperforin but enriched in flavonoids (not, vert, similar 12%). We characterized the *in vivo* activity profile of all three preparations using the tail suspension test (TST) in mice and the forced swimming test (FST) in rats as screening models. We further investigated the activity of pure hyperforin. Extract B and C (500 mg/kg each) as well as pure hyperforin (8 mg/kg) significantly shortened immobility time in the TST after acute pre-treatment whereas extract A was inactive. In the FST all three extracts decreased immobility time in a dosage of 500 mg/kg after acute as well as after repeated treatment. The present results clearly show that an SJW extract free of hyperforin and hypericin exerts antidepressant activity in behavioral models, supporting our working hypothesis that flavonoids are part of the constituents responsible for the therapeutic efficacy of SJW extracts. We also could show that hyperforin contributes to the beneficial properties of SJW extract, confirming the hypothesis that the crude SJW extract contains several constituents with antidepressant activity.