

## Measurement of Phytoestrogens in Human Urine

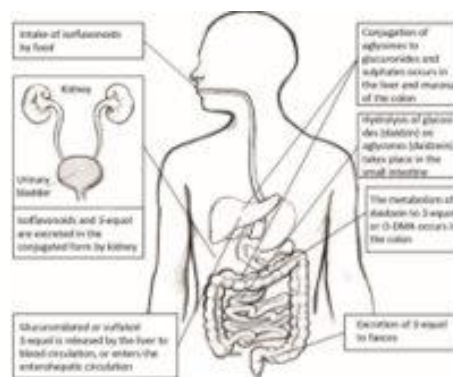
There is substantial interest in phytoestrogens due to their role in the prevention of hormone-dependent and age-related diseases, including cancer, osteoporosis, menopausal symptoms, and cardiovascular disease. In particular, gut microbiota metabolize daidzein, equol, and genistein, phytoestrogens that have shown a protective role in autoimmune diseases and diseases of the central nervous system. Further exploration of these compounds' benefits will continue to provide important advancements in treatment solutions for diseases like MS and autoimmune disorders.

### Problem

Due to the association found between phytoestrogen levels and the prevention of the previously mentioned diseases, there is a need to detect and quantitate phytoestrogen content.

### Solution

Using high-performance liquid chromatography coupled with photodiode array, the inventor was able to extract and quantify three phytoestrogens (equol, genistein, and daidzein) contained in the urine of a sample of women.



The production and metabolism of S-equol in humans  
Modified from Frankenfeld (2011)

### Value Proposition

- Low-cost method of phytoestrogen quantification due to its cost-efficient equipment (relative to other methods)

### Competitive Advantages

- An accessible, clear alternative to costly mass spectrometry
- Unique method

### Status of Development

- Seeking implementation and research advancement partners

### IP Status

- Patent pending #US20200225196A1
- Licensing available