Labmaster Enterolactone TR-FIA

Quantitative time-resolved fluoroimmunoassay

The Researcher's new Tool for Studies of Anti-Carcinogenic Potency of Lignans

Enterolactone is a lignan produced by intestinal bacteria from plant precursors matairesinol and secoisolariciresinol in fiber-rich food. This estrogen-like compound influences sex hormone metabolism and biological activity. It has also effects on intracellular enzymes, protein synthesis, malignant cell proliferation and differentation in such a way that makes it a strong candidate for a natural cancer-protective compound.

The TR-FIA method for plasma enterolactone provides a new procedure for the assay of enterolactone for large screening studies.

The method is reliable, practical, sensitive and specific for enterolactone. Crossreaction does not influence the results.

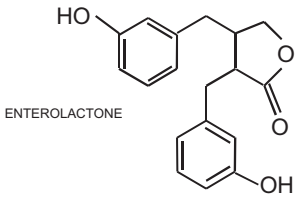
Enterolactone TR-FIA

WHAT IS ENTEROLACTONE?

Background

Lignans are a group of diphenolic hormone-like compounds of dietary origin that are of great interest particularly because of their anti-carcinogenic potency, but also because of their association with other Western diseases like coronary heart disease. Lignans occur mainly in various whole-grain cereals (barley, rye and wheat), seeds, nuts, legumes and vegetables.

When consumed, compounds that occur mainly in the glycosidic form in the plants are converted to the mammalian lignans by the intestinal microflora. Ingested glycosides are hydrolysed in the proximal colon. The colonic microflora convert matairesinol to enterolactone and secoisolariciresinol to enterodiol, and latter is readily oxidised to enterolactone.



ENTEROLACTONE

Enterolactone was identified in the urine of the female vervet monkey and women about twenty years ago. Recent experiments suggest that enterolactone may help prevent the development of cancer as well as atheoclerosis.

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10. Vanharanta M., Voutilainen S., et al. Risk of acute coronary events according to serum concentrations of enterolactone : a prospective population-based case-control study. Lancet 1999; 354:2112-15.

PERFORMANCE CHARACTERISTICS

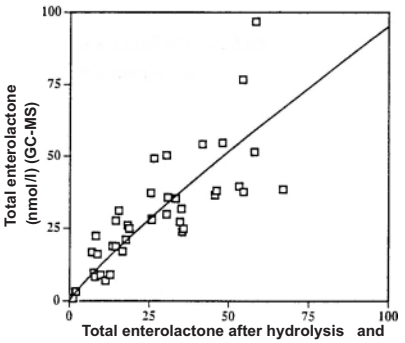
Specifity of Enterolactone Antiserum

Compound	% cross-reaction
Enterolactone	100
Enterodiol	0.28
Matairesinol	0
Anhydrosecoisolariciresinol	0
Secoisolariciresinol	0
Quercetin	0
Daidzein	0
Genistein	0
Equol	0

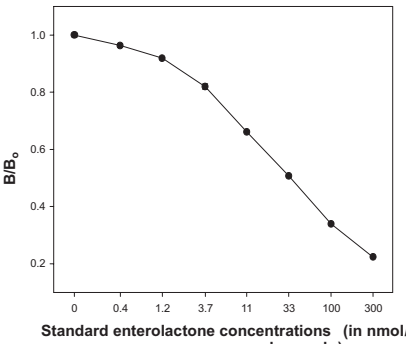
Intra- and Interassay CVs for Plasma Enterolactone TR-FIA in Hydrolyzed and Extracted Plasma Samples

Concentraation (nmol/l)	Number of assays	Intraassay CV (%)	Interassay CV (%)
10.9	8 (10)[a]	5.1	9.9
68.4	8 (10)	4.6	5.5
452.4	8 (10)	6.0	7.6

Correlation between plasma TR-FIA and GC-MS



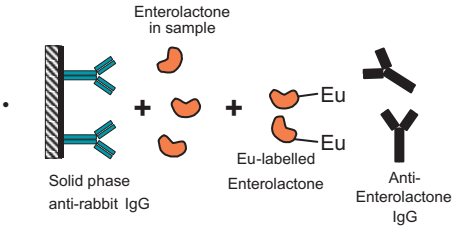
Standard Curve of plasma Enterolactone for TR-FIA



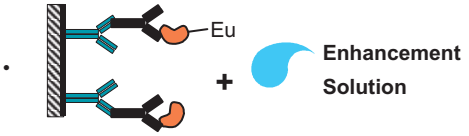
THE METHOD

COMPETITIVE IMMUNOASSAY

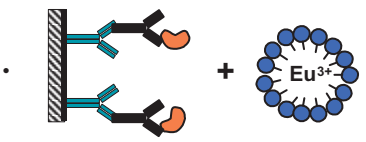
- **A sample preparation by hydrolyze and ether extraction**



- **90 minutes incubation**
- **Aspiration and washing**



- **5 minutes incubation**



- **Fluorescence measurement**

ORDERING INFORMATION

Labmaster Enterolactone TR-FIA

- Cat. no.: 1212-2001
- Includes:
  - microtitration plate (96 wells)
  - reagents for testing standards and samples
  - instructions for use

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