

Poster Title: Application of Liquid Scintillation and Gas-flow Proportional Counting Techniques for Simultaneous Detection of Alpha/beta Radioactivity in Food

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➤ Food Safety Challenge

FDA will face enormous demand for food testing in the event of nuclear or radiological emergency Fukushima Daiichi event

- Demand on rapid testing (~1620 food tests in 1st month)
- Demand on testing capacity (~1 million food tests in 4 years)

➤ Implementing Effective Countermeasure

Developing a rapid high-throughput radioanalytical method for detecting contaminated food

- Replace deficient methods – Enhance capability
- Detect α & β radioactivity simultaneously from single measurement – Enable efficient analysis
- Versatile for different radioanalytical instruments – Leverage all existing resources
- Applicable for a wide variety of foods – Ensure method robustness

➤ Current Progress

- Using DGA resin to extract α & β analyte radionuclides in various foods is developed
- Calibration of LSC and GPC counters for simultaneous detection of α & β radioactivity is developed
- Detection of α & β radioactivity in foods by LSC counter is validated using a variety of foods
- Method performance is found to fit intended application and meet data quality objective

➤ Future Effort

Validate method through multi-lab collaboration study

- Official method for Food Emergency Response Network (FERN)
- ASTM standard method