

¹³C Stearic Acid Breath Test

RELEVANCE:

Studying gastrointestinal fatty acid metabolism.

In combination with [¹³C]palmitic acid and [¹³C]oleic acid breath test used for investigating the influence of chain length and saturation of fatty acids on their metabolic behaviour.

SUBSTRATE / TEST MEAL:

Oral dose of 10 mg/kg body mass [1-¹³C]stearic acid (99% ¹³C-excess). The tracer is heated to 85°C in a mixture of double cream and olive oil and then emulsified with a mixture of casein, glucose and sucrose dissolved in water kept above 85°C. The emulsion is flavoured with chocolate milk-shake powder containing permitted emulsifiers to improve palatability and stability. This emulsion is consumed with 120 g white bread, 20 g strawberry jam and 10 g Flora margarine, together with the emulsion constituting a test meal with 3007 kJ, 30.0 g lipids (43 % saturated, 38 % monounsaturated and 19 % polyunsaturated fatty acids), 97.4 g carbohydrates and 19.9 g protein.

STATUS OF PATIENT:

After overnight fast, the individuals resting quietly during the test

TIMING OF SAMPLE COLLECTION: 0, 90 minutes

REFERENCES:

Jones AE, Stolinski M, Smith RS et al. (1998): Effect of Fatty acid Chain Length and Saturation on the Gastrointestinal Handling and Metabolic Disposal of Dietary Fatty Acids in Women. *Brit Journ Nutr* 81, 37-43