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[\[PDF \(288K\)\]](#) [\[References\]](#)**Determination of Fatty Acids in Human Sweat during Fasting Using GC/MS**[Yoko NUNOME](#)¹⁾, [Takao TSUDA](#)²⁾ and [Kuniyuki KITAGAWA](#)³⁾*1) Department of Applied Chemistry, Graduate School of Engineering, Nagoya University**2) Pico-Device, Co., Ltd., NAGOYA-IKO-RENKEI Incubator**3) EcoTopia Science Institute, Nagoya University***(Received March 3, 2010)****(Accepted June 8, 2010)**

Fatty acids (FAs) are biological molecules that are used as major metabolic fuels, and are concerned in important metabolic processes. We have performed a non-invasive and technically rapid and simple method for collecting sweat from humans, followed by GC/MS determination. The sweat was collected from each volunteer (the middle finger) by spraying 70% ethanol aqueous solution (no harmful solvent) into a 1.5-cm³ plastic vial. Analysis of FAs in sweat showed that the sweat solution contains lauric acid (C12:0), myristic acid (C14:0), palmitic acid (C16:0), oleic acid (C18:1), and stearic acid (C18:0). Here, it is demonstrated that FA concentrations for 4 young subjects correlated positively with percent of body fat ($r = 0.78$) and that the total FA levels for them increased progressively with increasing fasting time when a subject fasted throughout the experiment.

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