The System for Continuous Recording of Expiratory $^{14}CO_2$ Flow Rate by Scintillation Counter

A. TSUYA
Department of Radiology, Cancer Institute Hospital Tokyo
A. SHIGEMATSU
Life Science Laboratory
A. KUBODERA
Department of Radiopharmaceutical Science
Faculty of Pharmaceutical Sciences, Science University of Tokyo

A new radiorespiro-scintillation counting system was designed by Dr. Shigematsu, in order to count and record the cummulative pattern of expiratory $^{14}CO_2$ from the non-strained unanaesthetized small animals. This time, some modifications were made to enable to record the $^{14}CO_2$ flow rate directly, instead of converting the cummulative pattern into differential one, at a later time. Additional scintillation counter is placed immediately next to the expiratory $^{14}CO_2$ trapping system where the expiratory gas is continuously bubbled and mixed homogenously into the liquid scintillator flowing with constant velocity, regulated by two mini-pumps. Liquid scintillator is fed into the counting system to measure and record the cummulative pattern and overall $^{14}CO_2$ yield as in the previous method.

The quality of differential of $^{14}CO_2$ flow rate pattern recorded was found to be superior to the one previously obtained, but the overall $^{14}CO_2$ yield became worse. In addition, a simple method for continuously recording overall expiratory CO_2 flow rate is introduced, as it is considered essential to correlate the $^{14}CO_2$ flow rate to overall expiratory CO_2 flow rate.

Development of New Radionuclide Bolus Injector and Evaluation of Bolus Using Venous Phantom

H. BUNKO, A. KUWAJIMA, A. KUBOTA, N. TONAMI and K. HISADA
Department of Nucluar Medicine, Kanazawa University

Recent progress in cardiovascular radionuclide angiography requires good radionuclide bolus injection. The authors usually employed saline flush immediately after radionuclide injection using conventional three way stop cock. However, sometimes this method failed to create good radionuclide bolus because of difficult and trouble some handling. The authors thereby created an auto-