Annals of Nuclear Medicine Vol. 6, No. 1, 59–62, 1992

Application of ^{67}Ga for the estimation of reticulocyte production

Yasuhito OHKUBO,* Shigeto TAKASU,* Midori ITAKURA,* Shinsuke KATOH,*
Akiko SASAYAMA,* Hiroyuki KOHNO* and Akiko KUBODERA**

**Department of Radiopharmacy, Tohoku College of Pharmacy*
***Department of Radiopharmacy, School of Pharmaceutical Science, Science University of Tokyo*

In order to estimate the production of reticulocytes, which have a larger number of transferrin receptors than erythrocytes, we used ^{67}Ga which is exclusively bound to transferrin in the blood. The pattern of uptake of ^{67}Ga by reticulocytes was quite similar to the time course of transglutaminase activity which might be involved in receptor-mediated endocytosis. The preinjection of Fe^{3+} decreased the uptake of ^{67}Ga by reticulocytes. These results suggested that ^{67}Ga in a transferrin-bound form was taken up by reticulocytes via receptor-mediated endocytosis. It was showed that the application of ^{67}Ga is very easy and useful for the estimation of reticulocyte production.

Key words: ^{67}Ga uptake, transferrin, reticulocyte production