Neoglycoproteins are bound by receptors specific to lysosomes in liver cells. We reported on experiments using Tc-99m-Gal27-HSA in normal rabbits at the 23rd general assembly. In the present study, I-123- and Tc-99m-labeled Ga130-HSA were intravenously administered to normal rabbits and those with D-galactosumin-induced acute liver dysfunction. Serial measurements of radioactivity revealed equal accumulation of I-123 and Te-99m in the liver despite their different elimination routes. The liver images and the radioactivity-time curve obtained with Tc-99m-labeled Ga130-HSA were sufficiently clear for evaluation. The clearance T1/2 in the heart, as well as uptake T1/2 and Tm in the liver were significantly prolonged in the rabbits with acute liver dysfunction. Also, these indices correlated with the number of receptors in the liver directly measured by binding assay. To-99m-Gal-HSA can be useful for examination of liver disorders in which hepatic binding protein receptors decrease.

SYNTHESIS OF N-C-11-METHYL SPIPERON.
A.Tanaka,M.Ito,K.Suzuki*,O.Inoue* and T.Yamazaki*.
Sumitomo Heavy Industries and National Institute of Radiological Sciences*, Chiba.

Recently, spiperon or N-methyl spiperone labelled with C-11 or F-18 has been useful in binding studies for measuring dopamine receptors both in vivo and in vitro. We report a rapid and mild procedure for the preparation of N-C-11 methyl spiperon using C-11-methyl iodide as a precursor. Spiperon has tertiary amines in its structure and ordinary method of methylation promote to form quaternary ammonium salts. So, spiperon is treated with strong base and the catalyst is added to a solution of spiperon in unhydrous solvent and heated at 50°C in the presence of C-11-methyl iodide for 5 min.

N-C-11 methyl spiperon is isolated and purified by HPLC and the elution is dried up. The yield of the N-C-11-methyl spiperon is up to 90% and the radiochemical purity is 100%.

The entire synthesis was accomplished about 50 min. after E.O.B.