Biochemical Results of Congenic Hypertensive(SHR) Nude Rat. Yasuko Yogi¹⁾, Tomoko Banba²⁾, Hideki Katoh³⁾, Shuichiro Thuthumi⁴⁾, Masanori Kobayashi⁵⁾ and Hiroko Nomaguchi¹⁾. 1:National Institute for Leprosy Research, Tokyo 189, 2:Tokyo Kiyose School for Clinical Technology, Tokyo 204, 3:Central Institute for Experimental Animals, Kanagawa 216, 4:Daiichi Pure Chemicals, Tokyo 103, 5:Softron, Tokyo 166.

The purpose of this study is to establish reference data on biochemical parameters in the congenic hypertensive (SHR) nude rat and their littermates(submitted). The microchemical autoanalyzer for experimental animals was developed by ABAXIS. Establishment of this ABAXIS-EA made feasible the measurement of age-related biochemical changes. This report describes on the biochemical results in the congenic hypertensive(SHR) nude rat and their littermates using ABAXIS-EA.

Three congenic hypertensive(SHR) nude rats and 5 their littermates(*mul*+ and *+/+*) of both sexes aged 10, 12, 15 and 20 weeks-old were examined and compared with 5 of each SHR/NCrj purchased from Charles River, Atugi, Japan and F344/NJcl-*mulmu* purchased from Clea Japan of both sexes as control. Whole blood was collected from the tail vein in rats, and the blood was immediately measured with ABAXIS-EA with an exclusive rotary, EA-2. Plasma biochemical values, blood was Albumin(ALB), Alkaline phosphatase(ALP), Glutamate pyruvate transaminase(GPT), Amylase(AMY), Total cholesterol(T-CHOL), Blood urea nitrogen(BUN), Ionized calcium(CA++), Glucose(GLU), Creatinine(CRE) and Total protein(TP), were compared between the samples collected in rats tested.

Biochemical results in the congenic hypertensive(SHR) rat(*mulmu*, *mu*+ and *+/+*) were divided into different types. Namely, sex differences in T-CHOL and AMY values were observed with congenic hypertensive(SHR) rats and SHR/NCrj, with males showing lower levels in T-CHOL and then AMY was converse. F344/NJcl nude rats which have normotensive were showed similar values in both sexes. The significant higher values of TP, ALB and ALP were shown in all of samples from males as compared with that from females. TP values from congenic hypertensive(SHR) rats tended to be F344/NJcl-*mu*/*mu* values whereas ALB values tend to be SHR/NCrj. ALP values from congenic hypertensive (SHR) nude rats were observed similar to F344/NJcl-*mu*/*mu* while that of their littermates(*mu*+ and *+/+*) were showed similar values to SHR/NCrj. GPT and CA++ in the congenic hypertensive(SHR) rats were showed distinctive values with males showing higher than females. Although, GLU, BUN and CRE in the hypertensive(SHR) rats also were showed distinctive values with nude rats showing lower than their littermates and males were observed higher levels than females.

A congenic strain carrying nude(*mu*) and hypertensive genes was produced using female SHR/NCrj and F344/NJcl male nude rat by the cross-intercross with 12 cycles(N12) were repeated to establish the SHR/NCrj-*mu* congenic strain. The finding for genetic monitoring was observed complete agreement except for *mu* locus during the SHR/NCrj and the hypertensive (SHR) rat which was established by us, especially, RT1 locus was *k* and RT2 locus was *b*. The tendency to age-related biochemical changes has been on the increase in congenic hypertensive(SHR) rats. Therefore the measurement of them is under investigation.