component showed the same mobility to reduced tropomyosin on the electrophoresis of acrylamide gel in 5 M urea-1% 2-mercaptoethanol at pH 8.3.

4) A single component was not obtained from the preparations of heart and gizzard tropomyosins.

CHARACTERIZATION OF MULTIPLICATION OF AVIAN ENCEPHALOMYELITIS VIRUS IN CHICK EMBRYO BRAIN CELL CULTURES

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1) In the cell cultures of a chick embryo brain (CEB) inoculated with large doses ($10^{5.0}\sim10^{4.0}EID_{50}$/0.3 ml) of embryo-adapted avian encephalomyelitis virus (AEV), initial multiplication of the virus was observed later than 12 hours post-inoculation. Maximum virus titers of the cell-culture fluids ($10^{3.2}\sim10^{4.5}EID_{50}$/ml) were obtained 2 days after inoculation and those of the cell phase ($10^{3.3}\sim10^{2.4}EID_{50}$/0.3 ml) were obtained almost one day before. When smaller inocula ($10^{1.0}\sim10^{3.0}EID_{50}$/ml) were used, the time to the peak of multiplication was prolonged. In any case, after having reached maximum virus titers, titers of $10^{2.5}\sim10^{3.0}EID_{50}$ per ml (cell-culture fluids) persisted. AEV antigen, stained directly by the fluorescent antibody (FA), was not detected in the cells.

2) Two strains and one field isolate of non-embryo-adapted AEV multiplied in the CEB cell cultures. Growth curves of the virus and other findings were the same as those observed in the experiments with smaller inocula of the embryo-adapted virus.

3) The change of virus infective titers in the brain cell cultures from chick embryos which had been infected with the embryo-adapted virus various days after incubation was almost the same as that in the cell cultures inoculated with the same virus. However, in the cell cultures from heavily infected embryos, viral antigen was detected by the FA test from the initial stage of the cultivation. Thereafter, the antigen-positive cells decreased in number and disappeared within about 10 days after the onset of cultivation. On the other hand, when cultured cells were derived from chick embryos which had been inoculated with the virus 3 days before the cultivation, the antigen-positive cells were not observed throughout. No cytopathic effect occurred, no plaque was produced and no inclusion body was detected in the infected cultured cells throughout the above-

described experiments.

4) Embryo-adapted AEV derived from the cell cultures was more sensitive to the incubation temperature (38.5°C) than that in the infected brain suspension.

EXPERIMENTAL STUDIES ON RESISTANCE TO INFECTION WITH LARVAL *ECHINOCOCCUS MULTILOCULARIS* IN UNIFORM STRAINS OF MICE

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No report has been published concerning age resistance to infection with larval *Echinococcus multilocularis* LEUCKART, 1863, in experimental animals. The author, therefore, attached importance to the age factor in his investigation into differences of resistance according to strain, age and sex.

Five uniform strains, AKR, A/He, C57BL/6, CF#1 and SJL/J, were used for the experiment. Mice of each strain were classified into 3 groups; 16- to 30-day-old, juvenile, 31- to 83-day-old, prime, and more than 100-day-old, senile. Besides, cases of each group were segregated in both sexes. The mice were inoculated orally with approximately 330 or 400 eggs of the Alaskan strain of *E. multilocularis* obtained from experimentally infected dogs. The mice were killed 30, 60 and 90 days after the inoculation, and parasitic foci were examined macro- and microscopically. Development of the larva (number and size of cysts, appearance of brood capsules and protoscolices, etc.) and host tissue were examined for analysis.

Susceptiblities ranged from 100% (AKR) to 46% (SJL/L). In AKR, the prime and senile groups showed age resistance in a low degree, but no sex difference was confirmable. In A/He, the resistance became higher parallel with the progress of age, and was predominant in males. Neither age nor sex resistance was recognized because of the too slow development of the parasite in C57Bl/6 mice. One female each during pregnancy and just after parturition, however, exhibited low resistance. In CF#1, the prime and senile groups were more resistant than the juvenile, and females showed higher resistance than males. In SJL/J, age resistance progressed by age, but sex difference was indefinite.

In general, all but a few strains of mice are considered to show age resistance to infection with larval *E. multilocularis*. Consequently, not only sex