Zusammenfassung. H^3-DNA von *Salmonella typhimurium* wurde in den Dotter von *Platypoecilus maculatus*-Embryonen injiziert und ihr Verbleib untersucht. Nach 45 Stunden findet man 45% der injizierten H^3-DNA-Radioaktivität in der säurelöslichen Fraktion des Dotters. Von diesem Zeitpunkt an nimmt die Radioaktivität in der säureunlöslichen Fraktion der Embryonen ständig zu, bis nach 140 Stunden ein Wert von 50% erreicht ist. Der hohe Anteil an radioaktivem säurenunlöslichem Material im Dotter, der 140 Stunden nach der Injektion noch ca. 35% beträgt, lässt vermuten, dass hier noch hochmolekulare Bakterien-DNA vorhanden ist. Somit erscheint die Möglichkeit einer Aufnahme dieser hochmolekularen DNA in die Embryozellen nicht ausgeschlossen.

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Proteins of Venezuelan Equine Encephalomyelitis Virions

Proteins of several arboviruses were studied by means of polyacrylamide gel electrophoresis[1–3]. Two or three proteins were found in group A arboviruses, one of which was specified as internal protein and another as capsid protein. Nothing is known about protein(s) of the inner membrane in which viral ribonucleoprotein is encapsulated. Proteins of Venezuelan equine encephalomyelitis (VEE) virus, which belongs to group A arboviruses, have not yet been studied. This paper describes proteins of VEE virions including a protein of the inner membrane of the virions.

The methods of propagation of VEE virus in chick embryo fibroblasts and purification of the virus were described earlier[4,5]. Purified virus preparations labelled with ^{14}C amino acids[5] were solubilized by the method of SUMMEERS et al.[6] and studied by means of electrophoresis in 5% polyacrylamide gel. Figure 1 presents an electrophoregram of proteins of VEE virions. It is seen that VEE virions contain 3 major proteins with different electrophoretic mobility. In some experiments the fourth peak with low electrophoretic mobility was found, which can be considered as a product of polymerization of the first major protein.

To specify the proteins in respect to virion substructures, experiments were conducted with fractionation of VEE virus by treatment of purified virus with Tween 80 and ether. This method disrupts the virions and releases hemagglutinin, ribonucleoprotein and also viral cores which contain ribonucleoprotein enveloped into inner membrane[5]. All these components were fractionated by centrifugation in Caesium chloride equilibrium density gradient. Figure 2 shows the results of such experiment. It is seen that ribonuclein bands at $\varrho = 1.43$ g/cm³,

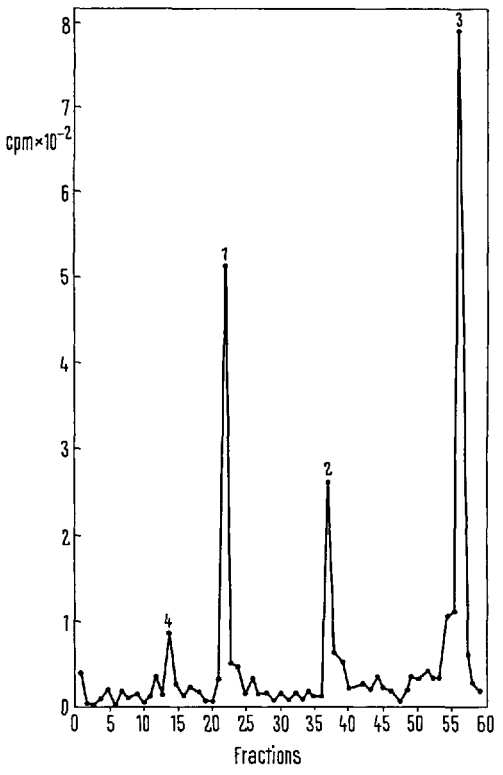

Fig. 1. Electrophoretogram of ^{14}C labelled proteins of VEE virus. The virus was labelled with ^{14}C amino acid mixture, purified, solubilized and subjected to electrophoresis in 5% polyacrylamide gel in a Polyanalyst (USA) apparatus at 5 mA/tube for 6 h. Migration is from the left (cathode) to the right (anode).

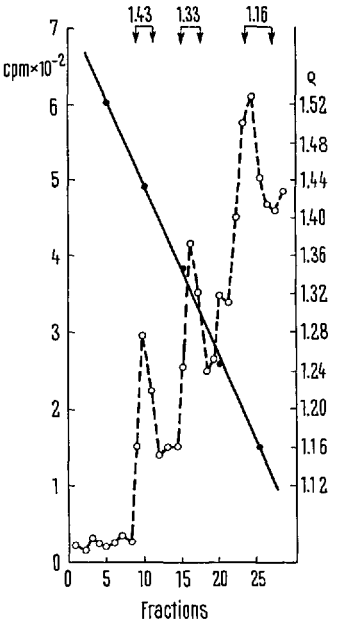

Fig. 2. Equilibrium density centrifugation in Caesium chloride gradient at 30,000g for 16 h of VEE virus labelled with ^{14}C amino acid mixture, purified and disrupted by treatment with Tween 80 and ether. The bottom of the gradient is to the left.

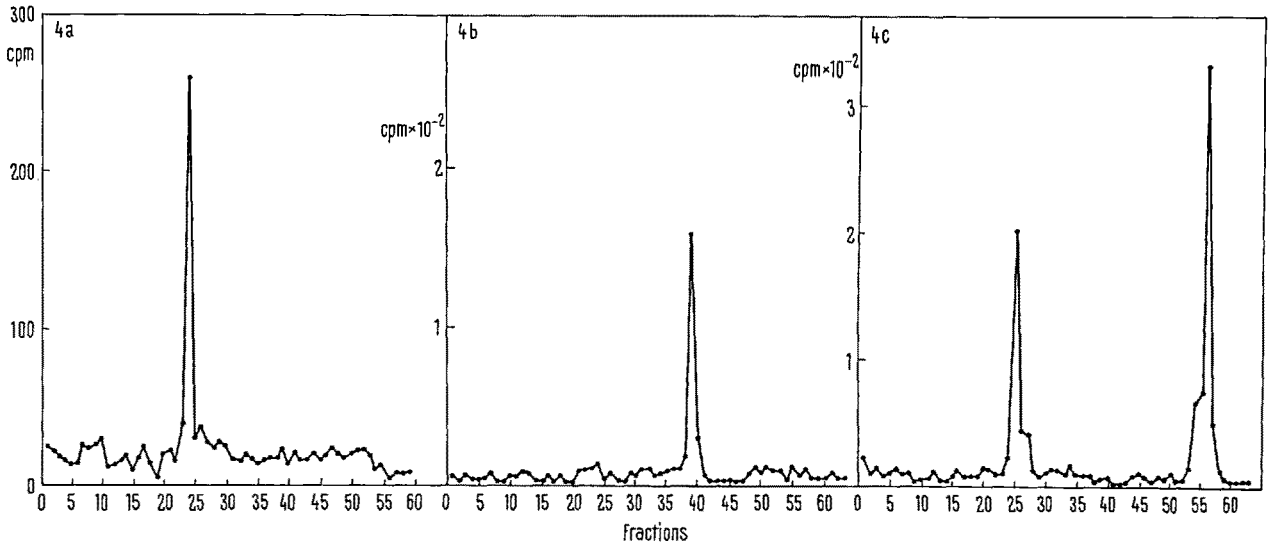

Fig. 3. Electrophoretograms of gradient fractions shown in Figure 2 that band at ϱ = 1.43 g/cm³ (a), ϱ = 1.18 g/cm³ (b) and ϱ = 1.33 g/cm³ (c). Conditions of electrophoresis as in Figure 1.

hemagglutinin bands at ϱ = 1.18 g/cm³, and viral cores band at ϱ = 1.33 g/cm³. Intact virions have the buoyant density of 1.24 g/cm³ (ref. [5]).

The gradient fractions were collected, solubilized and studied by means of polyacrylamide gel electrophoresis. The results are shown in Figure 3. It is seen that the protein of the internal component of VEE virus is identical with the first major protein shown in Figure 1. The protein of virus hemagglutinin is identical with the second major protein of the virus. Virus cores contain 2 proteins, one of which is identified as the protein bound with viral RNA and the other as the protein of the inner membrane (the third major protein of the virus).

To evaluate the molecular weights of 3 proteins of VEE virions, experiments were conducted in which coelectrophoresis of VEE proteins was carried out with several protein markers of known molecular weight. We selected for this purpose bovine serum albumin (mol. wt. 69,000), trypsin (mol. wt. 24,000), pancreatic ribonuclease (mol. wt. 13,000).

Based on these data, the molecular weights were estimated as 59,000–61,000 daltons for the protein of nucleocapsid, 34,000–38,000 daltons for the protein of hemagglutinin, and 15,000–18,000 daltons for the protein of the inner membrane.

ВЫВОДЫ. Для исследования белков вирионов венесуэльского энцефаломиелита лошадей была применена комбинация методов разделения субвирусных компонентов в градиенте хлористого цезия и электрофореза в полиакриламидном геле. Этими методами обнаружено три белка: белок нуклеокапсида (мол. вес. 59,000–61,000 дальтонов), белок гемагглютинина (34,000–38,000) и белок базальной мембраны (15,000–18,000).

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Thelytochous Parthenogenesis in *Cereus pedunculatus* (Actiniaria)

A dense population of *Cereus pedunculatus* lives in the Leghorn aquarium where numerous individuals cover the drain channels, the walls and the bottom pebbles of the best illuminated tanks. No samples of this species have hitherto been found either along the coast of Leghorn or in the shallow banks of the Meloria, despite close investigation.

The Aquarium population is represented by individuals which never reach big sizes (maximum height 20–30 mm); the mean number of tentacles is 235 with a minimum of 104 and a maximum of 345 in normally developed individuals. This species is said to reach 90 mm in height and tentacles often excede 700 in number (Stephenson[1], Andres[2]).

Cereus pedunculatus is known as a hermaphrodite species (Leloup[3], Pax and Müller[4]) and is normally viviparous (Stephenson[1]). Specimens from the population of the Aquarium tanks have been examined in order to investigate the reproductive and sexual condition of the population.

Samples have regularly been taken from the tanks at two month intervals: some of them have been fixed for