been formed was separated by filtration on Synpor filters with a pore size of 0.4 μm. The filters were dried and the radioactivity of the deposits on them was counted in toluene scintillator (ZhS-1) in a Beta-1 counter.

As follows from Fig. 2, ^{3}H-BA specifically and reversibly binds to the CBPs. The high affinity of ^{3}H-BA for the isolated site of the proteins shows that they belong to the CBPs.

BIOSPECIFIC SORBENTS FOR OBTAINING AND PURIFYING ACTIVE FRAGMENTS OF ANTIBODIES TO α-LATROTOXIN

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UDC 577.1.112

The most effective and specific agent for the treatment and prophylaxis of poisonings by the venom of the spider Latrodectus tredecimguttatus consists of antivenom sera (Tashkent Scientific Research Institute of Vaccines and Sera) obtained against the whole venom. However, the quality of the immunoglobulin preparations made deteriorates considerably as the result of the aggregation of the protein components of the serum and also of the cleavage taking place during the fractionation process.

At the present time, enzymatic hydrolysis, treatment with β-propiolactone, and other methods are used for breaking down the aggregates [1]. When any of the methods mentioned are used, the immunoglobulin preparations become contaminated with these compounds. To prevent this it is desirable to synthesize ligand-immobilized sorbents to isolate the active $F(ab')_2$ fragments of the antibodies which retain the properties of the immunoglobulins and are free from the possibility of aggregation.

In order to isolate the $F(ab')_2$ fragments of antibodies for the hydrolysis of the immunoglobulins, various enzymes are used in the form of their aqueous solutions [2]. Here, difficulties arise that are connected with the additional purification of the hydrolysis products. We have attempted to convert pepsin, which cleaves the antibody molecules into $F(ab')_2$ and F_c fragments, into an insoluble form by immobilizing it on a cellulose sorbent [3].

Protein A from Staphylococcus aureus has affinity for the F_c fragment of certain types of immunoglobulins and forms a noncovalent bond with them [4]. We have used this property of protein A for separating the $F(ab')_2$ fragments from the F_c fragments of antibodies obtained previously [5]. Pepsin (Worthington) and protein A (Pharmacia) were immobilized on the cellulose sorbent Tsellopor as described in [3]. The amount of proteins bound to the Tsellopor was determined form the binding of Bromophenol Blue [6].

A solution of 10 mg of antibodies in 0.15 M sodium chloride solution was transferred by dialysis into 0.1 M acetate buffer, pH 4.5, and was incubated with pepsin immobilized on the sorbent at 37°C for 10 h.. The hydrolysate was subjected to gel chromatography on a column of TSK HW-55 equilibrated with 0.15 M NaCl. On a comparison of chromatograms of the native antibodies and their peptic hydrolysate, peaks of low-molecular-mass components belonging to the $F(ab')_2$ and F_c fragments were observed. The peptic hydrolysate was then incubated for an hour with the protein A-Tsellopor sorbent. On gel chromatography of the hydrolysate, the peaks corresponding to the unhydrolyzed molecules of the immunoglobulins and the F_c fragments practically disappeared through binding with the protein A-Tsellopor sorbent, which can be regenerated and used repeatedly.

Thus, the biospecific sorbents synthesized can be used repeatedly for obtaining and purifying active fragments of antibodies free from a capacity for aggregation. The isolated

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Translated from Khimiya Prirodnykh Soedinenii, No. 5, pp. 685-686, September-October, 1988.
Original article submitted May 16, 1988.

0009-3130/88/2405-0583$12.50

fractions can be used to obtain immunosorbents for the one-stage isolation of α-latrotoxin from whole venom and also, probably, for the treatment of bites by spiders of the genus Latrodectus.

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SYNTHESIS OF cis-DODEC-7-EN-1-OL [1-^{14}C]ACETATE — ONE OF THE MAIN COMPONENTS OF THE SEX PHEROMONE OF Agrotis segetum — AND A STUDY OF ITS VOLATILITY FROM RUBBER DISPENSERS

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UDC 547.99

The main components of the pheromone of the population of the turnip moth Agrotis segetum distributed in the south-western regions of the USSR are dec-cis-5-en-1-yl acetate, dodec-cis-7-en-1-yl acetate, and tetradec-cis-9-en-1-el acetate. Compositions containing these components possessed the greatest attractiveness for males of the pest when field trials were performed [1].

To create effective preparative forms of the sex pheromone it is necessary to determine the rate of their liberation form artificial evaporators. Among known methods, the most sensitive and accurate is the radiometric method in which ^{14}C-labeled pheromones are used [2].

We have performed the synthesis of dodec-cis-7-en-1-yl acetate labeled with carbon-14 and have studied the rate and duration of its evaporation form rubber dispensers under field conditions. The initial dodec-cis-7-en-1-ol was obtained from hex-1-yne and 6-bromohexan-1-ol by published methods [3, 4], and its physicochemical constants and spectral characteristics (IR and PMR spectra) corresponded to those given in the literature [5]. The product obtained was acetylated with [1-^{14}C]acetic anhydride (540 MBq/mmole) in pyridine at room temperature for 22 h.

$$C_4H_9CH{=}CH(CH_2)_6OH \rightarrow C_4H_9CH{=}CH(CH_2)_6O^{14}C(=O)CH_3.$$

After the usual working up and column chromatography (SiO_2; n-hexane—Et_2O (1:1)), the radiochemical yield of the [1-^{14}C]acetate amounted to 47.7%; its molar activity was 492 MBq/mmole and its radiochemical purity 94%. The labeled preparation (12 mg) was dissolved in 4 ml of hexane and deposited in 10-μl portions in dispensers (sections of medical red rubber tubing 15 mm long with an internal diameter of 5 mm and a wall thickness of 1.5 mm). The dispensers were placed in pheromone traps set up in an experimental field, and 10 of them

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Translated from Khimiya Prirodnykh Soedinenii, No. 5, pp. 686-687, September-October, 1988. Original article submitted February 12, 1988.

0009-3130/88/2405-0584$12.50