

hydroxyurea (Fig. 2), and the gradual equalization of the ^3H -thymidine concentration in the fractions are all evidence that repair of DNA injuries produced by benz(a)pyrene takes place on the nuclear matrix.

The results of this investigation thus suggest that the nuclear DNA fragment belonging to a particular fraction attaches itself for repair to the nuclear matrix, after which it is returned to those DNA regions that correspond to the initial fraction.

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REACTION OF MONOCLONAL A6/1 ANTIBODIES WITH THE DETERMINANT ANTIGEN OF TUMOR CELL ULTRASTRUCTURES OF EPITHELIAL TISSUES OF EPIDERMAL TYPE

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The nature of differential tissue-specific antigens characteristic of cells of the cambial layers of epithelial tissues of epidermal type, including those characteristic of cells of the basal layer of various types of stratified epithelium, has been studied during recent years [2, 3, 7, 8]. It has been shown that most tissue-specific antigens of epithelial tissues belong to the class of cytoskeletal cell proteins (keratins [5, 6, 8]). We know that the least differentiated (cambial) cells of epithelial tissues of epidermal type have proteins (prekeratins) that are characteristic only of that particular stage of maturation of cells belonging to tissues of that type [2, 7, 8]. It is these compounds which are preserved in the cells of tumors histogenetically connected with epithelial tissues of epidermal type, during tumor transformation [2, 4, 7].

The aim of this investigation was to study the reaction of monoclonal A6/1 antibodies with cell ultrastructures of certain tumors.

An indirect method was adopted, using peroxidase-labeled antibodies. Monoclonal antibodies to antigen of cells from the basal layer of various types of stratified epithelium of the A6/1 series were obtained by the method described previously [1]. The frozen sections were processed and ultrathin sections cut by the usual method. Tissues of squamous-cell carcinoma from various locations (larynx, esophagus, cervix uteri, lung) were investigated. The results showed that A6/1 antibodies reacting with the antigen characteristic of cells from the basal layer of stratified epithelia and cells of other epithelial tissues of epidermal

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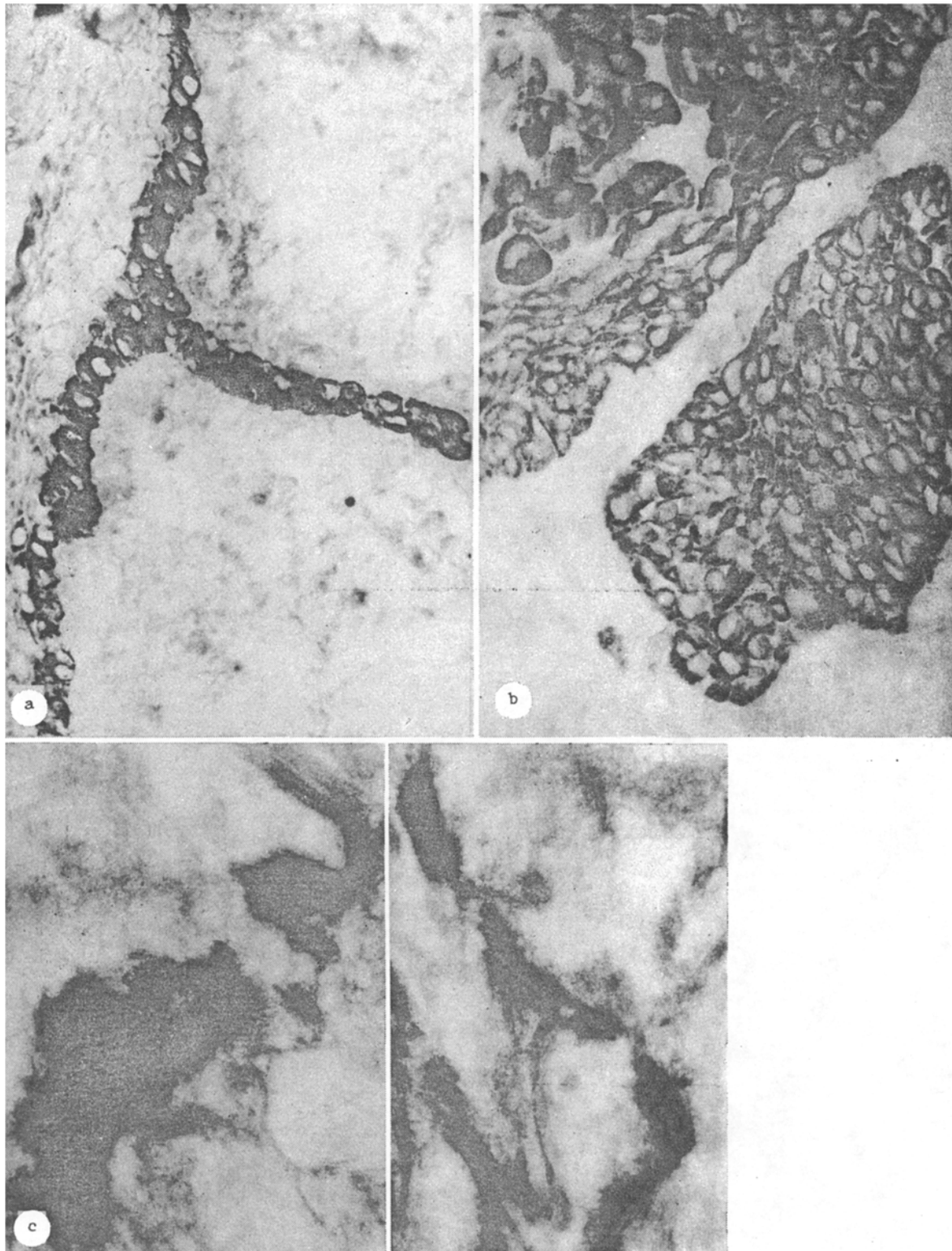


Fig. 1. Tissue sections treated with monoclonal antibodies to basal-cell antigen A6/1. a) Frozen section through skin: reaction in cytoplasm of cells of basal layer of stratified epithelium (400 \times); b) frozen section through skin from zone of growth of squamous-cell carcinoma: reaction in cytoplasm of cells from a tumor nodule (400 \times); c) ultrathin section through tissues of a squamous-cell carcinoma; reaction in filament zone of tonofibrils and desmosomes of tumor cell (10,000 \times). Indirect immunoenzyme method.

type react with the tonofilaments of tonofibrils and desmosomes of tumor cells of squamous-cell carcinomas in different parts of the body (Fig. 1).

It was thus shown by the use of electron microscopy and an immunomorphological method that A6/1 antibodies react with determinant compounds of the intermediate filaments of the tumor cell cytoskeleton in epithelial tissues of epidermal type.

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