분류번호	Ⅲ-P-6

Production and Characterization of Monoclonal Antibodies Against Rat Tracheal Mucins

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The objective of this study was to generate and characterize monoclonal antibodies against rat airway mucins, and therefore, should serve as a useful tool in studying the regulation of airway mucins using various in vivo rat models that are currently available. As an antigen, we used a high molecular mass mucin preparation purified from the spent media of rat tracheal surface epithelial cells in primary culture. Seven hybridomas were obtained which secrete monoclonal antibodies against the rat mucin among which mAbRT03 showed the highest immunoreactivity against the mucin based on ELISA. All of the antibodies secreted by these hybridomas recognized carbohydrate epitopes but not sialic acid residues since their immunoreactivity was completely abolished by treatment of the mucin with 20 mM periodate but not with neuraminidase. Further characterization of mAbRT03 showed that: (1) it belongs to the IgM type, (2) it binds to high molecular mass mucins based on both Western blot analysis and indirect immunoprecipitation, (3) it binds to the luminal side of tracheal epithelium as well as some goblet cells based on immunohistochemistry, and (4) it also recognizes in vivo airway mucins from rats but not from human nor hamsters which have been purified from the airway lavage fluids. This is the first anti-rat airway mucin monoclonal antibody which has been developed against purified rat airway mucins. Therefore, mAbRT03 should be able to serve as an invaluable tool in studying the regulation of airway mucins using various intact rat models that are currently available.