Mucin-Specific Monoclonal Antibodies

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Technology description

Mucins are high molecular weight glycoproteins that are found in epithelial mucous secretions, which play an important role in protecting the epithelial cell layer by trapping particulates and microorganisms from the environment. Mucins are major components that are responsible for the viscoelastic property of mucous secretions. Elevated mucin production and accumulation in conducting airways is frequently associated with various diseases, such as cystic fibrosis, asthma, chronic obstructive pulmonary disease (COPD) and chronic bronchitis.

Researchers at the University of California, Davis have developed mucin-specific monoclonal antibodies that recognize epitopes found in mucus secretory granules of human and monkey airway surface epithelium and in purified high molecular weight mucin. In addition, the UC Davis researchers have developed a double sandwich ELISA method based on these antibodies for the quantitation of mucin. Mucin-Specific Monoclonal Antibodies

Additional Information

Related Technologies

Human MUC5B Promoter-Reporter Construct

Disease Markers: Mucin 5B Monoclonal Antibodies

Additional Technologies by these Inventors

Human MUC5B Promoter-Reporter Construct

Disease Markers: Mucin 5B Monoclonal Antibodies

Controlling Tumor Growth And Malignancy

Suppression Of Allergic Lung Inflammation And Hyperactivity

Application area

The mucin-specific antibodies can be used as a tool for the immunohistochemical characterization of both mucus secretory granules as well as for ELISA quantitation of mucin. These antibodies may be used in the study of diseases such as cystic fibrosis, asthma, COPD and chronic bronchitis.

Advantages

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The UC Davis antibodies offer a method of characterizing mucus secretory granules that is superior to traditional chemical reaction methods such as alcine blue and periodic acid-Schiff staining techniques. Furthermore, the double sandwich ELISA method developed by the UC Davis researchers for mucin quantitation has a sensitivity that is three orders of magnitude higher than the conventional chemical colorimetric method.

Institution

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