BV 2017-19 - *A Novel Antibody Recognizes a Glycan Specific to Lung and Ovarian Cancer*

APPLICATION:

A novel single chain variable fragment antibody recognizes a glycan specific to lung and ovarian cancer

KEY BENEFITS:

• Tumor specificity
• Immunologic component
• Cytotoxic effect

MARKET SUMMARY:

Antibody based compositions have become an important tool for diagnosing and treating cancer patients. Cell surface antigens that are selectively expressed by cancer cells as compared to normal cells provide a means for developing targeted cancer therapies and diagnostic tools. A key challenge in the field has been to identify antigens that may be used to selectively kill cancer cells. Peptide antigens are commonly used to develop cancer-specific antibodies although the applicability of such antigens may be limited in certain contexts, for example when the expression of the peptide antigen is similar in normal and cancer cells.

Cancer-specific glycosylation changes in proteins are another attractive group of antigens that may be able to distinguish cancer cells from normal cells. Few antibodies, however, have been developed that specifically target the carbohydrate moieties that are selectively expressed on cancer cells.

TECHNICAL SUMMARY:

The present invention provides a novel antibody (C9) directed to a carbohydrate moiety that is present on lung and ovarian cancer cells due to a tumor specific carbohydrate modification. Because of this tumor specific modification, the C9 antibody has a unique target that is present only on tumor cells. The inventors have used immunohistochemistry and flow cytometry to demonstrate that the antibody targets tumor cells, and the antibody is cytotoxic to cancer cells *in vitro* . Additionally, the inventors have demonstrated that the antibody will target tumor xenografts in mice. This antibody shows great promise in the diagnosis and treatment of lung and ovarian cancer.

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Continued

DEVELOPMENTAL STAGE:

The antibody targets tumor xenografts in mice

PATENT INFORMATION AND CONTACT:

App Type: Prov
Country: US
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Patent No.:
File Date: 03/19/2018
Issue Date:
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