

## Precision Biologics Antibody Product Candidates

Precision Biologics owns antibody products generated from cancer vaccines, several of which have demonstrated success in human trials. **Ensituximab (NPC-1C)**, **NEO-201(h16C3)**, and **NEO-301(31.1C)** are each unique monoclonal antibodies that are designed to recognize distinct cancer-associated targets. These three antibodies were generated by immunizing mice with a purified preparation of membrane proteins isolated from surgically resected tumor tissue of colon cancer patients (i.e., the cancer vaccines). These antibodies represent the lead product candidates currently being developed by Precision Biologics although the company has similar cancer vaccines derived from most solid tumors. The vaccines represent the pipeline for additional product candidates to potentially detect and treat breast, prostate, lung, brain, ovarian, uterus, liver, kidney, and cervix cancers. The Ensituximab antibody target is being characterized in our laboratories. The purified antigen is related to the mucin 5ac protein (MUC5AC), a member of the mucin family of proteins. MUC5AC has been reported in the scientific literature to be associated with cancer (pancreas and colon) and pulmonary diseases. *However, the Ensituximab antibody appears to bind to a variant of MUC5AC expressed by the cancer tissues but not by healthy tissues, since Ensituximab has very limited cross-reactivity to healthy human tissues.* The h16C3 antibody target is being characterized in our laboratories. The purified antigen bears resemblance to carcinoembryonic antigen-related cell adhesion molecules (CEACAM), proteins that have been associated with colon cancer for many years. However the h16C3 antibody appears to bind to a variant of CEACAM expressed by cancer tissues but not by healthy tissues. In addition, the h16C3 was found *in vitro* to react with several other types of cancer besides colon and pancreas cancer. This antibody was found to react with lung, ovarian, breast, uterus, and esophageal cancers. The h16C3 antibody was humanized to develop a therapeutic product candidate for possible future clinical testing. The 31.1C antibody was found *in vitro* to react positively with many colorectal and pancreatic cancer tissues. The antibody continues to be rigorously characterized *in vitro* and *in vivo* for possible therapeutic and diagnostic applications.