Diagnostic/Therapeutic

Fully Human and Monoclonal Antibodies to High Molecular Weight Melanoma Associated Antigen (HMW-MAA) for the Diagnosis and Treatment of Melanoma, Glioma, Chordoma, and Breast Cancer

ID 1792, 1794, 1804

Background
Breast cancer affects over one million women worldwide every year. Advances in our understanding of the biology of this disease have lead to improved patient survival with incorporation of new anti-hormonal agents in the treatment of hormone receptor positive disease and the addition of HER-2 directed therapies for the 25% of women with HER-2 amplification. There remains however, a subset of women for whom these approaches are not an effective option and chemotherapy offers only limited benefits. This group has been described as “triple-negative” (i.e. estrogen receptor negative, progesterone receptor negative, and HER-2 negative) or basal breast cancer and represents a distinct clinical and molecular subgroup of the disease.

Technology Description
Dr. Ferrone and colleagues have determined the HMW-MAA is overexpressed on basal breast carcinoma cells and in malignant pleural effusions from patients with breast carcinoma. This invention provides for methods of using anti-HMW-MAA monoclonal antibodies to diagnosis and treat basal breast carcinoma.

Applications
1. Therapeutic, Diagnostic or Prognostic for multiple cancers
2. Radio-immunotherapy and Radio- immuno-guided surgery
3. Imaging of primary tumors and metastasis
4. Monoclonal antibodies can be utilized

Stage of Development
1. PET Imaging-Preclinical studies completed in mice for imaging melanoma and gliomas
2. Mouse data for therapeutic use for melanoma and breast

Advantages
1. High specificity and sensitivity as a diagnostic and therapeutic
2. Data for use in PET imaging for melanoma, glioma, and breast cancer available
3. Anti-idiotypic antibody that can induce an immune response

Provisional Applications Filed for 01792 and 1794

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Inventors
Soldano Ferrone, MD, PhD
XinHui Wang, MD
Department of Medicine, UPMC
Hillman Cancer Center
Featured Innovator  |  Soldano Ferrone, MD PhD

Professor, Department of Surgery, University of Pittsburgh School of Medicine

Professor, Department of Immunology, University of Pittsburgh School of Medicine

Research Interests
1. Escape mechanisms utilized by tumor cells to avoid immune recognition and destruction
2. Antibody-based immunotherapy of solid tumors
3. Identification of targets for immunotherapy on human cancer stem cells

Selected Publications


Contact Information
Michelle Booden, PhD
Technology Licensing Manager
Life Sciences
412-648-2220
mab217@pitt.edu

Office of Technology Management
200 Gardner Steel Conference Center
Thackeray & O’Hara Street
Pittsburgh, PA  15260
412-648-2206
www.otm.pitt.edu