Washington University in St. Louis
Office of Technology Management

ANTI-PDZ TIP1 ANTIBODY THERAPY FOR CANCER

Hallahan, Dennis, Kapoor, Vaishali, Yan, Heping

Richards, Jennifer

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Background: Lung cancer is one of the leading causes of cancer-related deaths worldwide. In the United States, it is second most common cancer for men and women and the leader for cancer-related death. Non-small-cell lung cancer (NSCLC) accounts for 85% of all reported lung cancer cases and is relatively insensitive to chemotherapy and radiation therapy. The five-year survival rate of NSCLC patients decreases significantly with advancement of the disease, stage I is 47% and stage IV is 1%. In order to improve patient survival, alternative therapies are needed.

Figure 1. Efficacy of Anti-PDZ TIP1 antibody treatment with and without irradiation in tumor-bearing mice

Technology Description: Scientists at Washington University School of Medicine have generated an antibody targeting tax interacting protein 1 (TIP1, also known as Tax1bp3), specifically the PDZ domain. TIP1 plays a vital role in cancer development and progression and is detected in a variety of invasive cancers which includes NSCLC. Anti-PDZ TIP1 antibodies have a dose and time dependent reduction in cell proliferation and a direct cytotoxic effect on NSCLC. In addition, anti-PDZ TIP1 antibody increases the efficacy of radiation treatment (Figure 1).

Key Advantages:

- Reduces tumor growth
- Induces death of cancer cells
- Enhances the efficacy of radiation treatment
- Disease detection
- Monitor disease progression
- Monitor treatment response

Patent: Pending