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MD Anderson and Amgen announce agreement to develop BiTE therapies for myelodysplastic syndrome

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The University of Texas MD Anderson Cancer Center and Amgen have announced a research collaborative agreement focusing on Amgen's bispecific T cell engager (BiTE®) antibody constructs, an immunotherapy that serves as a "bridge" between T cells and cancer cells.

The research agreement will identify targets for BiTE therapy in myelodysplastic syndrome (MDS), a bone marrow disorder in which the body does not produce sufficient healthy blood cells. MDS affects primarily older adults over age 60, and can cause severe anemia, potentially leading to development of acute myelogenous leukemia (AML), a blood cell cancer.

"This is a unique collaboration that explores this therapy for its potential in treating a disorder that affects thousands of people each year," said Guillermo Garcia-Manero, M.D., professor of Leukemia at MD Anderson. "At MD Anderson we have unrivaled proteomics capabilities to explore new targets for this disease, and this novel approach may very well open up new potential treatments for our patients."

The collaboration's innovative approach will draw on the expertise of MD Anderson's Moon Shots Program, which aims to accelerate the conversion of scientific discoveries into clinical advances and significantly reduce cancer deaths. Garcia-Manero leads the MDS/AML

Moon Shot.

The collaborative agreement will allow Amgen and MD Anderson to join forces in a research partnership that aims to take new drug development from "A to Z". The agreement provides for joint development of new agents under pre-determined terms. Amgen retains all commercial rights, while MD Anderson is eligible to receive milestones and royalties upon successful achievement of key objectives.

"We are excited about the new research opportunities this collaboration will open up in further exploring the potential of BiTE technology," said Sean E. Harper, M.D., executive vice president of Research and Development at Amgen. "BiTE antibody constructs represent an innovative immunotherapy approach that helps the body's immune system target cancer cells. MD Anderson is a great partner in our quest to find potential new treatments for patients with serious illnesses."

BiTE antibody constructs are recombinant proteins consisting of two separate antibodies held together by a flexible peptide linker or bands of amino acids. The antibodies are designed to function as a link between T cells and cancer cells. One antibody or protein domain binds to the cancer cell's surface, while the other binds to the CD3 on the T cell, resulting in the malignant cell's death. It is thought that BiTE antibody constructs may be engineered to target a range of tumors.

"This long-term collaboration between leading scientists at MD Anderson and Amgen takes advantage of significant advances in technologies available for target discovery through the MD Anderson Moon Shots Program," said Samir Hanash, M.D., Ph.D., professor of Clinical Cancer Prevention and director, the Red and Charline McCombs Institute for the Early Detection and Treatment of Cancer at MD Anderson. "The agreement covers the full scope of clinical development from identifying targets for this therapy in MDS to

developing fully tested and approved new therapies."

Provided by University of Texas M. D. Anderson Cancer Center