CANCER PREVENTION & RESEARCH INSTITUTE OF TEXAS

Award ID:
DP160071

Project Title:
A novel compound targeting CD38 for the treatment of multiple myeloma

Award Mechanism:
Texas Company Product Development Awards

Principal Investigator:
Kim, Jason

Entity:
Molecular Templates, Inc.

Lay Summary:

In 2015, there were approximately 27,000 new cases of multiple myeloma diagnosed in the US making it the second most prevalent blood cancer. The five-year survival rate for multiple myeloma is 45% and the median survival is approximately 4 years.
CD38 is a protein expressed on the surface of myeloma cells. Recently, daratumumab, an antibody that specifically targets CD38, was approved for the treatment of patients with multiple myeloma. Daratumumab works primarily by binding myeloma cells and recruiting an immune response to them. Most patients' immune system will ultimately stop responding to daratumumab allowing the disease to progress.

Molecular Templates, a venture-backed biopharmaceutical company in Georgetown, TX, has developed a novel multiple myeloma drug that targets CD38 but works in a different way from daratumumab. MT-4019ND is a fusion of an antibody fragment that binds CD38 with a highly toxic bacterial protein. MT-4019ND binds CD38 on the surface of myeloma cells but instead of recruiting an immune response, it directly kills the myeloma cell through its toxin component. MT-4019ND has shown a potent ability to kill myeloma cell lines in the laboratory and in animal models of myeloma. Molecular Templates has a similar compound in the clinic for lymphoma that appears safe and effective in patients. Molecular Templates seeks $15.3M in CPRIT financing to move MT-4019ND through clinical studies in patients with refractory multiple myeloma.