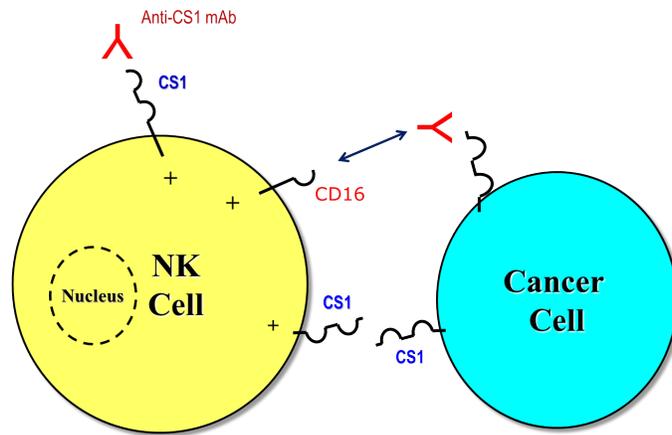


Monoclonal Antibody Against CS1 Receptor for Cancer Therapy

Description:

Researchers at the University of North Texas Health Science Center have developed synthetic and recombinant peptides comprising natural killer cell surface receptors. The peptides were used to generate monoclonal antibodies that bind to CS1, a cell surface receptor demonstrated to be overexpressed in certain cancers including multiple myeloma. Binding of the monoclonal antibodies to CS1 leads to natural killer cell activation. The approach could result in inhibition of cancer cell growth leading to an immunotherapeutic product for cancer therapy.



CS1 activates NK cells in three ways:

- Induces natural cytotoxicity
- Activates Ab-dependent cellular cytotoxicity (ADCC)
- CS1-CS1 interaction.

Market Need:

Over 150,000 people a year are diagnosed with leukemia, lymphoma or multiple myeloma representing almost 10 percent of all cancers diagnosed annually. Although multiple myeloma is diagnosed in less than 27,000 people annually, over 11,000 deaths are expected to occur due to the cancer. The global multiple myeloma therapeutic market is over \$7 billion annually with the market expected to increase approximately \$9 billion by 2021. Growth in the market is driven primarily by increased multiple myeloma prevalence as a result of an aging population.

Benefits and Advantages:

- Binds to the CS1 receptor expressed on human natural killer cells, T cells and activated B cells
- Recognizes the two isoforms CS1-L and CS1-S
- The CS1 cell surface glycoprotein is overexpressed in multiple myeloma and provides an optimal target for immunotherapy with high specificity
- Results in activation of natural killer cells, which have the unique ability to kill tumor cells while not impacting other lymphocytes
- Monoclonal antibodies designed to increase the lytic activity of natural killer cells towards cancer cells potentially results in more effective cancer therapy with a reduction in adverse side effects

Technology Status: Tech 2000-031. Available for licensing or collaboration.
Intellectual Property: US Patent [7,041,499](#)
Lead Inventor: [Porunelloor Mathew, PhD](#)

For Additional Information:

Claude C. Longoria, MBA, IP Management Director
claudelongoria@unthsc.edu (817) 735-2587