



Vq Myeloma Cell Lines

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Inventors: Jing Zhang

The Invention

UW Madison researchers' present invention is a set of two, new transgenic mouse multiple myeloma (MM) cell lines. Transgenic mice were developed expressing mutations in RAS pathway genes found in >50% of patients with advanced or relapsed multiple myeloma in B cells. Vk*MYC mutant mice had been previously reported to develop highly penetrant, slowly developed MM, so Jing used that Vk*MYC mouse line as the background. She expressed an NrasQ61R/+ mutant allele as the MM progression driver in the Vk*MYC mice, isolated B cells, cultured the cells, and established the cells as immortalized. To validate the cell lines, the Zhang lab studied the genetic sequences of the lines confirming the presence of the mutations. They transplanted the cell lines into mice that had been irradiated to destroy their immune systems. Both cell lines led to MM in the irradiated mice, but one line enriched primarily in the bone marrow and secondarily in the spleen while the other enriched in the lymph nodes suggesting organ specificity of the different cell lines. Both cell lines were passaged 6 times and retained their activity in causing MM when transplanted into mice.

Applications

- Cell lines to create mice for studying MM, as well as screening for and developing therapeutics
- Could be used internally for drug discovery and development, or sold as cell line or model mice

Key Benefits

- Represent high risk/refractory model of MM VQ mice recapitulate most biological and clinical features of human advanced/high-risk MM Allows for creation of mouse model to investigate MM progression *in vivo*

Additional Information

For More Information About the Inventors

- [Jing Zhang](#)

Tech Fields

- [Research Tools : Cell lines](#)

For current licensing status, please contact Jennifer Gottwald at jennifer@warf.org or 608-960-9854