



## Bovine Macrophage Cell Line

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Inventors: Charles Czuprynski, Dhammika Atapattu, Josely Figueiredo

**The Wisconsin Alumni Research Foundation (WARF) is seeking commercial partners interested in developing a bovine macrophage line that proliferates in cell culture.**

### Overview

Macrophages are white blood cells that ingest foreign material and play a crucial role in the immune system. Presently, there is no bovine macrophage cell line available for research and testing purposes, according to the ATCC. The closest available models are a macrophage cell line derived from a mouse tumor, and a bovine cell line often referred to as BoMac. The latter is not ideal because it is related to dendritic cells, lacks macrophage biomarkers and is weakly phagocytic.

### The Invention

UW–Madison researchers have developed the first proliferating bovine cell line proven to have features of monocytic/macrophage lineage. The new cell line is useful for bovine disease research, such as studying host-parasite relationships from an immunological perspective.

The new line was discovered when some of the primary macrophage cells isolated from bovine blood samples began spontaneously proliferating under standard cell culture conditions. They were identified as a well-differentiated macrophage cell line based on morphological features and the presence of a macrophage surface marker, which was found in 99 percent of the cells. They also tested positive for markers confirming their monocytic and mesenchymal origins, respectively.

### Applications

- Bovine macrophage cell line
- Studying immunological and infectious diseases

### Key Benefits

- First proliferating cell line of its kind
- Can be successfully passaged numerous times without losing important characteristics
- Offers better reproducibility than freshly isolated macrophages from donor cattle

### Stage of Development

The cell line continues to grow up to the 23<sup>rd</sup> (at present) passage with a successful freeze-thaw cycle in liquid nitrogen. The cells have been tested and found to be more than 95 percent viable during each passage.

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**For More Information About the Inventors**

- [Charles Czuprynski](#)

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**WARF**  
Wisconsin Alumni Research Foundation

| [info@warf.org](mailto:info@warf.org) | 608.960.9850

## Tech Fields

- [Research Tools : Cell lines](#)

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