

VIDEO TRANSCRIPT

A Look inside the Lab: Liquid Nitrogen Freezer – Video transcript

The liquid nitrogen freezer is a unit that holds cells for long-term storage at a temperature of negative 190 degrees Celsius.

In comparison, the coldest temperature ever recorded in the Antarctic was negative 89 degrees Celsius, and your freezer at home is usually around negative 18 degrees Celsius.

The gaseous vapor you see when you open up the liquid nitrogen freezer is what happens when negative 190-degree Celsius vapor hits room temperature of 24 degrees Celsius.

When cells are placed into the liquid nitrogen freezer, their biological function stops due to the extreme low temperature; however, they are not dead. They can be brought back to life and used in future testing.

The Liquid nitrogen freezer in our laboratory can hold approximately 10,000 samples. However, bigger biorepositories have liquid nitrogen freezers that can hold up to 70-80,000 samples.

Our liquid nitrogen freezer is important to maintaining a cell line from a 53-year-old leukemia patient, and we use it in our chromium release assay to test patients' natural killer cell function in the hospital.