



## Bacterial Genomic Libraries from Alaskan Soils (AK 9-13 and 16)

**WARF: P05158US**

Inventors: Jo Handelsman, Lynn Williamson, Heather Allen

**The Wisconsin Alumni Research Foundation (WARF) is seeking commercial partners interested in six libraries of bacterial genomic DNA isolated directly from non-permafrost soils in an extremely cold and phosphorus-poor environment.**

### Overview

Cultured microorganisms produce an extraordinary array of structurally diverse and valuable organic compounds; however, microbes that can be cultured using standard techniques represent only a small fraction of the microbial diversity present in any natural environment. To more fully tap this vast reservoir of diversity, large amounts of microbial DNA can be isolated directly from soil and then screened for useful genes and gene products.

### The Invention

UW-Madison researchers have compiled six libraries of bacterial genomic DNA isolated directly from non-permafrost soils in the floodplain of the Tanana River, an extremely cold and phosphorus-poor environment near Fairbanks, Alaska. The six libraries contain almost 200,000 clones with average insert sizes ranging from 5 to 30 kilobases. This collection of genomic DNA complements a collection of over 1,000 bacterial cultures and 10 additional libraries of bacterial genomic DNA isolated from the same Alaskan soils (see WARF reference numbers P03154US and P04104US).

### Applications

- Provides a potentially valuable source of new genes, antibiotics, metabolic processes and cold-adapted enzymes for food processing, medical and industrial applications

### Key Benefits

- Microorganisms adapted to exceptionally harsh environments are a potentially vast source of novel metabolic processes, antibiotics, enzymes and other proteins.

### Additional Information

#### For More Information About the Inventors

- [Jo Handelsman](#)

#### Related Technologies

- [See WARF reference number P03154US for information on a bacterial culture collection from Alaskan soils.](#)
- [See WARF reference number P04104US for 10 additional libraries of bacterial genomic DNA isolated from Alaskan soils.](#)

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