

Genetic engineering experiment set using *Thermus thermophilus* model microorganism

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This article introduces [the competent cell](#) and [the new shuttle vector](#) for *Thermus thermophilus*, a thermophilic bacterium found throughout Japan.
Why not use Thermus resources, a treasure trove of heat-resistant and robust proteins, in your research?

Thermus thermophilus: 好熱菌のモデル微生物

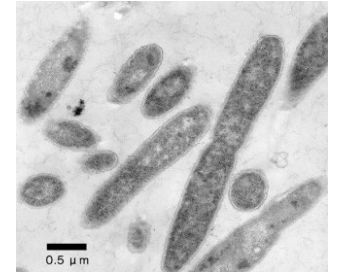
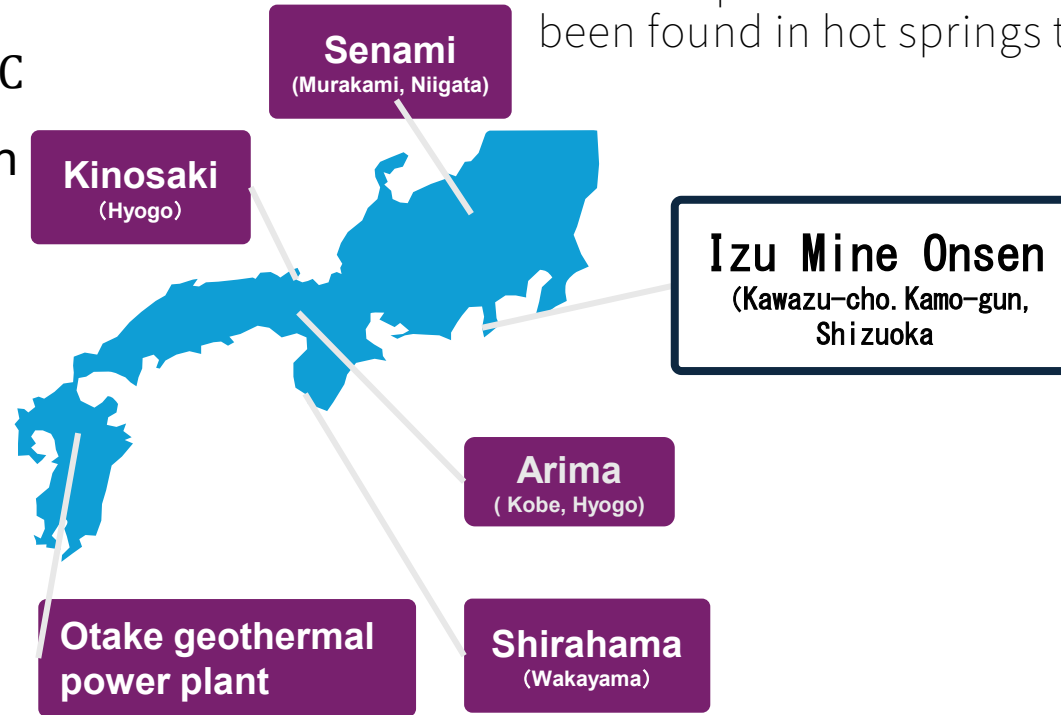
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- ✓ Extremely thermophilic bacteria
 - ✓ Optimum growth temperature: 70°C
- ✓ High capacity for natural transformation
- ✓ Establishment of genetic manipulation systems
 - ✓ Plasmid vector systems
 - ✓ Genome editing

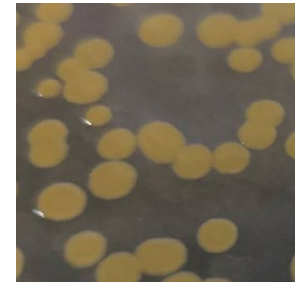
- **Approved host vectors**
- Basic and applied research utilizing biomolecular stability
 - PCR enzyme
 - Conformational analysis of proteins

1993 Nobel Prize in Chemistry

Various species of *Thermus thermophilus* have been found in hot springs throughout Japan.



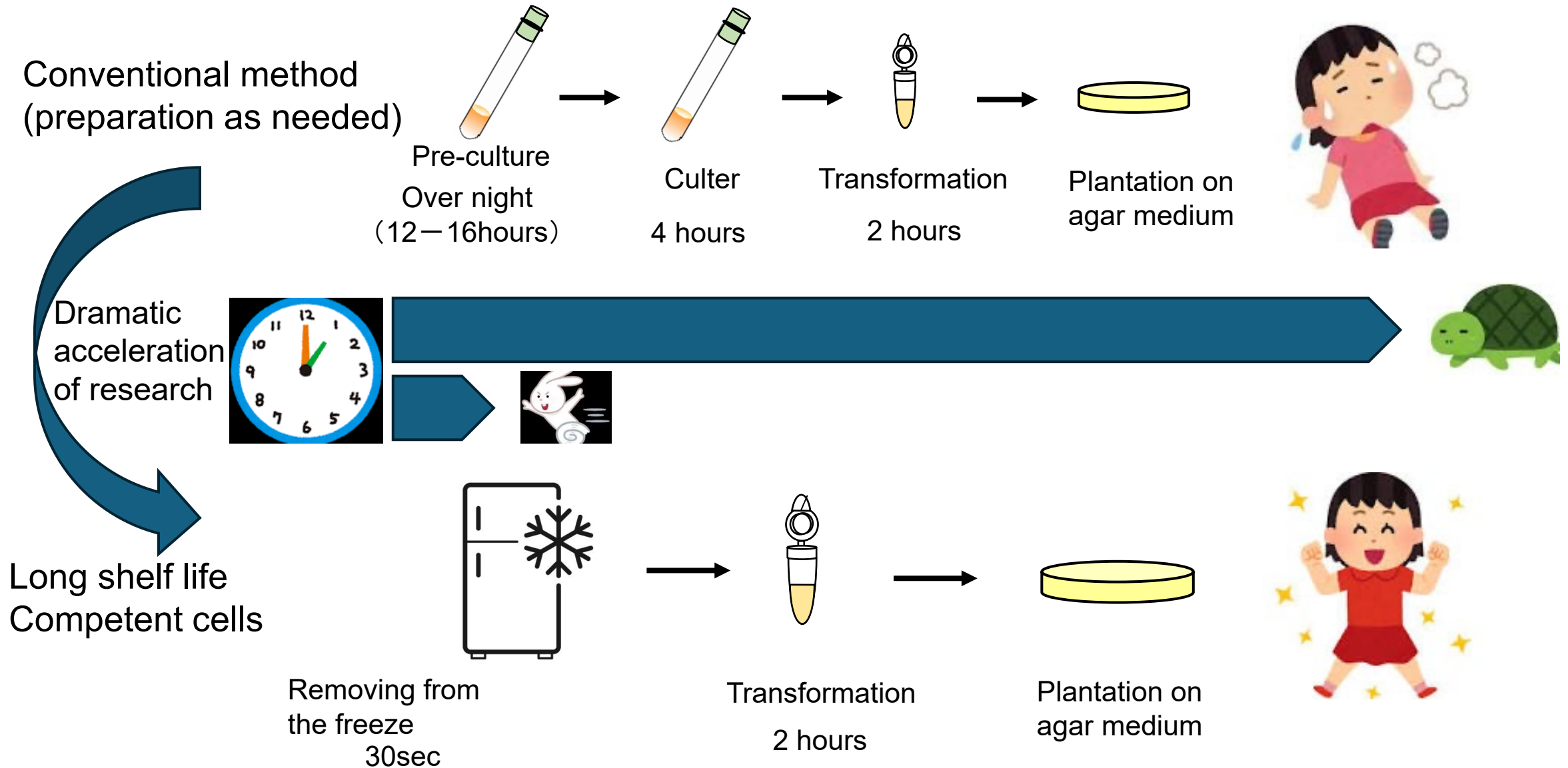
electron micrograph



Colonies on agar
(bacterial population)

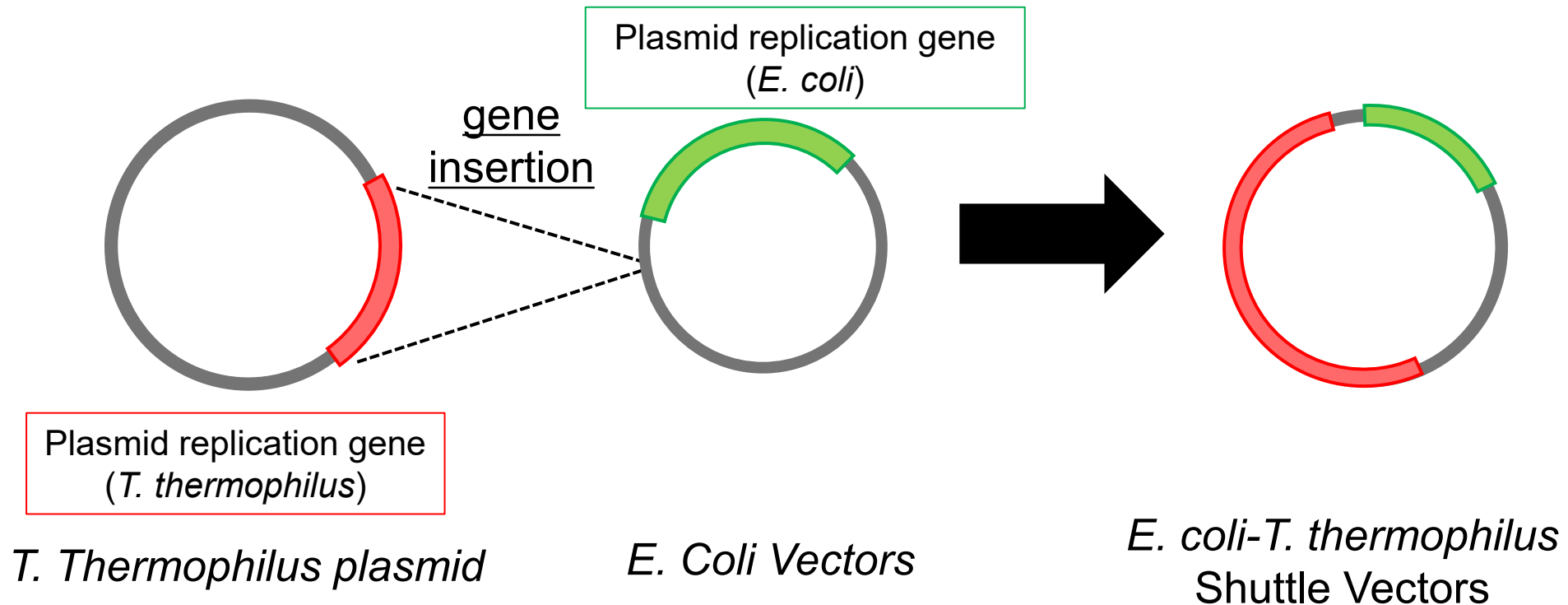
Stable enzymes lead directly to technological innovation
(Enzymes in common organisms are denatured)

Accelerating research on various thermophilic proteins found in various regions : Competent cells



Accelerating Research on Various Thermophilic Proteins Found in Regions: Shuttle Vectors

Vectors that can replicate in both *T. thermophilus* and *E. coli*



A set of *Thermus thermophilus* (host) competent cells and shuttle vectors.

Smooth introduction of technology is possible.

- Can be tried
- We provide technical guidance in addition to providing samples.
- We also accept joint research

Why not incorporate the strengths of Japan's abundant hot spring resources into your research?