



ARCHPOL

RESEARCHING NEW DNA POLYMERASES IN A MICROORGANISM ISOLATED FROM A DEEP-WATER HYDROTHERMAL SOURCE

ARCHPOL's objective is to identify and characterise new DNA synthesising activities in hyperthermophilic archaea, microorganisms that live in extreme conditions.

ARCHPOL will record the various forms of DNA damage likely to arise in the event or absence of a response to genotoxic assaults - pH and temperature variations, oxidising stress, etc. In addition, the project will focus on detecting new DNA polymerases that result from these extreme conditions. *Pyrococcus abyssi* is the organism that will be used as the model in this research. This organism, whose genome has been entirely sequenced, is a type of hyperthermophilic archaea that has been isolated from a deep-water hydrothermal source located at a depth of 2000m in the North Fiji Basin.

Aside from the fundamental research involved in this project, ARCHPOL also includes a biotechnology component, as the knowledge gained and enzyme tools generated will be transferable to areas such as paleogenetics and criminology in the field of DNA engineering, where there is ongoing demand for new thermostable DNA polymerases capable of amplifying damaged DNA using PCR.

Partner

Research center

Ifremer, Brest [\[Project Developer\]](#)

Funder

- Agence Nationale de la Recherche

Labelisation

10/12/2010

Overall budget

977 K€