## ABSTRACT

A purpose of the present invention is to provide a gene amplification apparatus with simple operation, wherein the apparatus can heat and cool gene rapidly and a thermal cycle can be operated in a relatively short period and a method thereof, a method for preparing immobilized DNA library suitable to the above apparatus and a method for comparing genes systematically. The apparatus for preparing immobilized DNA library according to the present invention comprises a reaction body 10 on which a grooved portion for receiving a container is formed, a cap portion 50 provided at an upper portion of the reaction body and a container 12 formed by substrates for immobilizing DNA, wherein the cap portion 50 including means for heating/cooling 51 and means for cooling 52. In the apparatus, a computer control portion 64 compares a signal from a temperature measuring portion 61 and a program chart so that a temperature control portion 62 of the means for heating/cooling 51 and a temperature control portion 63 of the means for cooling 52 are driven. A plurality of DNA library in which genes are immobilized on surfaces of diamond substrates are set in the container so as to compare genes systematically.