## FROM PLANT TO GENE: CONSTRUCTION OF CUSTOMIZED BAC LIBRARIES AND SCREENING TOOLS

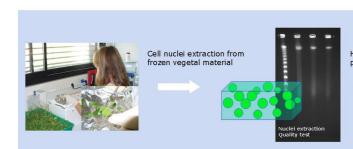
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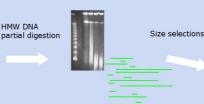
French Plant Genomic Resource Center (CNRGV) has been created in France in 2004 by the French National Institute for Agricultural Research (INRA). It is both a repository centre for plant genomic resources and a service provider dedicated to the scientific community.

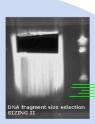
Because cloning of genomes into bacterial artificial chromosome (BAC) libraries constitutes an invaluable tool for genomic analysis, CNRGV offers to construct plant BAC libraries.

BAC library construction can be associated to our efficient 3D-pools production methods.

These methods have been validated and are daily used at CNRGV. The "3D-pools screening pipeline" has been developed at CNRGV. Various projects on model and crop plants are already under progress.







Cloning in

Ligation in pIndigoBAC-5

Colony picking

Quality tests and characterization

**Customized BAC library** 

**Sending copy** 

Storage at CNRGV

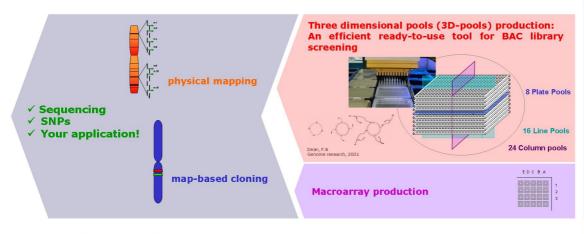
- Using vegetal material from your plant of interest we construct customized BAC library (mean insert size, coverage cloning enzyme)
- Range of different services:

BAC library construction
BAC library construction + 3D-pools production
BAC library construction + Macroarray production

- BAC library associated to our efficient Three Dimensional Pools (3D-pools) result in powerful screening tools useful for numerous applications.
- These methods are daily used at CNRGV. Our processes are certified ISO9001: 2000



Information about CNRGV, available libraries and services: http://cnrgv.toulouse.inra.fr/



## "3D-pools screening pipeline"

Using smart pooling strategy, large-scale DNA amplification enzyme and RT-PCR technology, we have developed a high-throughput pipeline from the 3D-pool construction to the acquisition of screening results.

This reliable method is able to minimize the number of PCR reactions needed to screen a BAC library. It can be adapted to different library size and coverage and produces an unlimited quantity of DNA matrix.

We offer to construct customized 3D-pools but various 3D-pools are already available (on wheat, Tomato, pepper... BAC libraries). Other BAC libraries are under process of being pooled.

BAC library construction references:

Construction of Plant Bacterial Artificial Chromosome (BAC) Libraries: An Illustrated Guide. 2<sup>nd</sup> Edition (2002)
Daniel G. Peterson, Jeffrey P. Tornkins, David A. Frisch, Rod A. Wing and Andrew H. Paterson. Journal of agricultural genomics 5, 2000

An improved method for plant BAC library construction. Luo M, Wing RA. Methods Mol Biol. 2003;236:3-20.

Efficient doning of plant genomes into bacterial artificial chromosome (BAC) libraries with larger and more uniform insert size. Chalhoub B. Belcram H. Caboche M. Plant Biotechnol J. 2004 May: 2(3):181-B.







