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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's a **non-profit center** dedicated to the scientific community. It is both a **repository centre for plant genomic resources** (such as BAC and cDNA libraries) and a **service provider** for efficient genomic studies.

Genomic Resources available at CNRGV

MORE THAN 100 PLANTS GENOMIC LIBRARIES

Including following TRITICEAE genomic libraries :

Wheat BAC resources

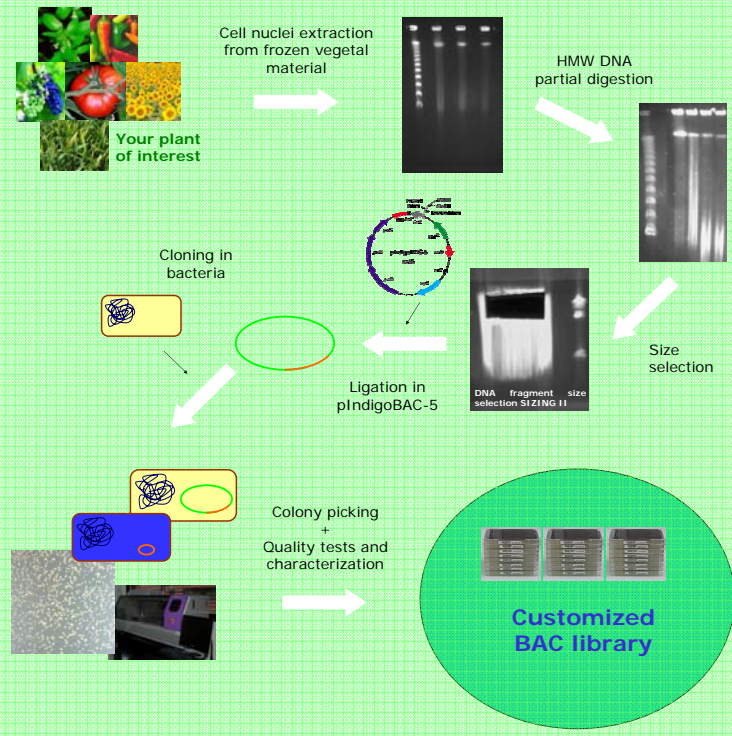
| BAC Library Name | Enzyme | Insert size | Genome eq. | Clone Number |
|------------------|---------------------|-------------|------------|--------------|
| TaaCsp3BFhA | HindIII | 103 kb | 6,2 x | 67 968 |
| TaaCsp3BFhB | HindIII | 126 kb | 10,5 x | 82 176 |
| TaaCsp3BFhA_MTP | HindIII | 103 kb | 1 x | 7 680 |
| TaaCsp3DLhA | HindIII | 105 kb | 11 x | 64 512 |
| TaaCsp3DLhA_MTP | HindIII | 110 kb | 1 x | 5 826 |
| TaaCsp3DShA | HindIII | 110 kb | 11 x | 36 864 |
| TaaCsp1ALhA | HindIII | 103 kb | 8 x | 49 536 |
| TaaCsp1AShA | HindIII | 111 kb | 11,8 x | 31 104 |
| TaaCsp1BLhA | HindIII | 114 kb | 15,4 x | 92 160 |
| TaaCsp1BSShA | HindIII | 113 kb | 15,7 x | 55 286 |
| Chinese spring | HindIII | 130 kb | 9,3 x | 000 |
| Renan | HindIII-EcoRI-BamHI | 110 kb | 6, 9 x | 812 544 |

Barley BAC resources

| BAC Library Name | Enzyme | Insert size | Genome eq. | Clone Number |
|------------------|----------------|-------------|------------|--------------|
| HVVMRXALLhA | HindIII | 106 kb | 0,8 x | 38 400 |
| HVVMRXALLhB | HindIII | 110 kb | 1,5 x | 50 304 |
| HVVMRXALLmA | MboI | 158 kb | 6,4 x | 202 752 |
| HVVMRXALLeA | EcoRI | 125 kb | 3,7 x | 147 456 |
| HVVMRXALLrA | Random sheared | 92 kb | 6,4 x | 260 352 |
| HVVMRX83KhA | HindIII | 106 kb | 1,6 x | 84 096 |

Online order from one clone to an entire library is available at <http://cnavg.toulouse.inra.fr/>

BAC library construction service at CNRGV



Three dimensional pools (3D-pools) production: An efficient ready-to-use tool for BAC library screening

"3D-pools screening pipeline"

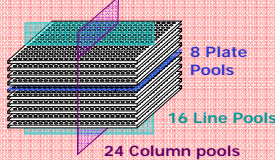
Using smart pooling strategy, large-scale DNA amplification enzyme and Real Time-PCR technology, we have developed a high-throughput pipeline from the 3D-pool construction to the acquisition of screening results. This reliable method is able to minimize the number of PCR reactions needed to screen a BAC library.

Using the phi29 amplification, it provides an unlimited quantity of DNA matrix. It can be adapted to different library size and coverage.

Various 3D-pools are already available (on wheat, Tomato, pepper, melon BAC libraries). We also construct customized 3D-pools upon request.



Phi29 amplification : avoid DNA extraction steps



3D pools recently produced

| |
|-----------------------------|
| Wheat "3B-Chromosome MTP" |
| Wheat "3B-Chromosome" |
| Wheat "3DL-Chromosome MTP" |
| Melon "PI161375" |
| Tomato "Le_Hba" & "SL_Mbol" |

Macroarray production

Produced with any library (on demands)

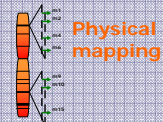


► These methods are daily used at CNRGV

► Our processes are certified under ISO9001: 2000



► Any exchanges of resources is ruled by Material Transfer Agreement



Physical mapping



Map-based cloning

CNRGV is involved in numerous projects:

- Wheat and barley: TriticeaeGenome FP7⁽¹⁾
- Tomato: physical mapping for sequencing chro. 7⁽²⁾
- Sunflower: SUNYFUEL, PROMOSOL⁽³⁾
- Medicago: various projects as Medicago Stock Center⁽⁴⁾
- Eucalyptus⁽⁵⁾
- Rape⁽⁶⁾
- Pepper⁽⁷⁾: PHYTOSOL-2
- Arabidopsis⁽⁸⁾
- Chicory⁽⁹⁾

- ✓ Sequencing
- ✓ SNPs
- ✓ Your application!

CNRGV's collaborations:

- ETGI / ITMI / Triticeae Genome partners¹
- Laboratoire de génomique et d'amélioration des fruits Toulouse-France²
- Laboratoire des Interactions Plantes Micro-organismes INRA-CNRS Toulouse-France^{3,4}
- INRA Clermont-Ferrand¹, Rennes⁴, Avignon⁷...
- University of Lille^{8,9}
- Centro das Florestas e Produtos Florestais, Lisbonne-Portugal⁵
- The Australian National University, Canberra-Australie⁶

Information about CNRGV, available libraries and services <http://cnavg.toulouse.inra.fr/>