

## Gene-sertion™ - genome recovery service

When selecting plants into which you are transferring a particular genetic locus (be it a QTL region, a mutant allele or a transgene event), IDna Genetic's Gene-sertion™ service enables you to select those plants in your populations that have the closest similarity to the target recipient genome, whilst still carrying the introduced/selected gene. Gene-sertion™ allows rapid strides towards the target recipient genotype to be made at each generation, drastically cutting the time to recover the desired, uniform gene/background combination - from six to as few as two backcross generations - and saving significant costs in the process.

### Use our Gene-sertion™ service when:

- Cleaning up genetic backgrounds after mutagenesis or TILLING procedures
- Backcrossing or fixing transgenes into a target genetic background

### Technical specifications:

Our recommended strategy is 2 backcrosses and one selfing with 200 plants per generation. An additional backcross may be necessary under certain circumstances, or if you request it. Similarly, larger populations can be accommodated. Please don't hesitate to contact us.

- You supply IDna with leaf material of mutant donor and recurrent parent lines.
- IDna screens the DNA of these two lines with genetic markers in order to find 5 to 10 evenly distributed polymorphic markers per chromosome.
- You notify IDna on the day that you send samples.
- You can either supply samples already selected as having the desired mutation, or you can provide IDna with details of the mutation to be selected (sequence, primers etc).
- At each generation you supply 10 small leaf discs (or equivalent) per sample in 96 tube format.
- IDna homogenises samples and extracts DNA.
- IDna will score 5 – 10 polymorphic markers per chromosome.
- The samples will be ranked by percentage of recurrent parent DNA, and the top three plants indicated.
- Similarly, plants containing recombinations close to the gene of interest will be indicated.
- Plants derived from the final selfing may also be screened for zygosity using IDna's **g-Count™** service.

### Benefits:

- Comprehensive expert advice, experimental design and guidance package
- Accurate and efficient clean-up of desired genotype
- Rapid data turnaround, synchronised with your selection programme
- Significant cost and time savings

For further information on this service please contact:

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