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Modified primers

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A limiting aspect of microarray experiments is the efficient production of labelled cDNA probes from small amounts of starting material (typically over 20 µg of total RNA is required) . In the July issue of *Nature Biotechnology*, Xiang *et al.* describe a technique for efficient and inexpensive probe production using random hexamer oligonucleotide primers that have been modified with free amino groups at their 5' ends (*Nature Biotechnology* 2002, **20**:738-742). This method allows for the generation of fluorescent probes for microarray hybridization using as little as 1 µg of total RNA. They used random primers with 5' amino C6dT (thymidine modified at the 5' position with an 8-9 carbon chain ending in a primary amine) and incorporated aminoallyl-dUTP during cDNA synthesis. The fluorescent dyes (Cy3 and Cy5) were then chemically added to the free amino groups. Xiang *et al.* used microarray experiments to demonstrate that their technique is more efficient than conventional labelling methods (using oligo-dT priming and direct incorporation of fluorescent bases) and can be easily used with 1 µg of total RNA without loss of expression profiling results.

References

1. High-fidelity mRNA amplification for gene profiling.
2. *Nature Biotechnology*, [<http://www.nature.com/nbt/>]