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## Breeding a better vector

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**DNA shuffling** (also called molecular breeding) generates variation by random fragmentation of a cloned gene followed by reassembly of the fragments in a self-priming polymerase reaction. The result is a recombination of overlapping fragments that have different mutations or come from different, naturally occurring **homologous genes**. In the August **Nature Genetics** Soong *et al.* apply this technique to a pool of six different murine leukemia virus envelope sequences to derive a new virus that can, unlike its parents, infect Chinese Hamster Ovary (CHO K1) cells (*Nat. Gen.* 2000, **25**:436-439). Similar selections on clinically relevant cell types may yield improved vectors for gene therapy.

## References

1. Rapid evolution of a protein in vitro by DNA shuffling.
2. DNA shuffling of a family of genes from diverse species accelerates directed evolution.
3. Nature genetics, [<http://www.nature.com/ng/>]