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Minos mutagenesis

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In the 15 November EMBO Reports Klinakis *et al*. describe a method for insertional mutagenesis and gene tagging that uses transposon-mediated mutagenesis (TRAMM) (*EMBO Reports* 2000, **1:**416-421). They used two plasmid vectors, one encoding the Minos transposase enzyme from *Drosophila hydrei* and the other carrying a drug-resistance gene flanked by *Minos* inverted repeats. The naked DNA plasmids were transfected into human HeLa cells and about 4% of cells gave drug-resistant clones with multiple insertions. Furthermore, a *Minos*-based gene trap system yielded about 80,000 insertions per million transfected cells. Insect transposons could therefore be used for high frequency insertion mutagenesis of the human genome in functional genomics and high-throughput screening. The TRAMM method is an improvement on existing insertion mutagenesis techniques; it overcomes the inefficiency of plasmid vector approaches and does not require the same level of experimental expertise needed for using retroviral vectors.

References

1. *EMBO Reports*, [http://www.embo-reports.oupjournals.org]

2. Mobile Minos elements from *Drosophila hydei* encode a two-exon transposase with similarity to the paired DNA-binding domain.

3. Promoter traps in embryonic stem cells: a genetic screen to identify and mutate developmental genes in mice.