

PublisherInfo		
PublisherName	:	BioMed Central
PublisherLocation	:	London
PublisherImprintName	:	BioMed Central

Chloroplast transfer

ArticleInfo		
ArticleID	:	4693
ArticleDOI	:	10.1186/gb-spotlight-20030206-01
ArticleCitationID	:	spotlight-20030206-01
ArticleSequenceNumber	:	45
ArticleCategory	:	Research news
ArticleFirstPage	:	1
ArticleLastPage	:	2
ArticleHistory	:	RegistrationDate : 2003-2-6 OnlineDate : 2003-2-6
ArticleCopyright	:	BioMed Central Ltd2003
ArticleGrants	:	
ArticleContext	:	130594411

Jonathan B Weitzman

Email: jonathanweitzman@hotmail.com

There is substantial [evolutionary evidence](#) for gene transfer from the chloroplast to the nucleus. In an Advanced Online Publication in [Nature](#) Huang *et al.* report the results of experiments designed to measure the rate of transfer of chloroplast DNA (cpDNA) into the nucleus in *Nicotiana tabacum* tobacco plants (*Nature*, 5 February 2003, doi:10.1038/nature01435). They engineered the chloroplast genome by inserting a neomycin phosphotransferase reporter gene (*neoSTLS2*) that confers kanamycin resistance only when it is transposed to the nucleus. A screen of 250,000 seedlings led to the isolation of 16 kanamycin-resistant plants that showed stable inheritance of *neoSTLS2*. Huang *et al.* estimate the rate of cpDNA transfer as one transposition event in about 16,000 pollen grains.

References

1. Evolutionary analysis of *Arabidopsis*, cyanobacterial, and chloroplast genomes reveals plastid phylogeny and thousands of cyanobacterial genes in the nucleus.
2. *Nature*, [<http://www.nature.com/nature/>]